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REPORTS FROM THE ANNUAL MEETING
(Part III)

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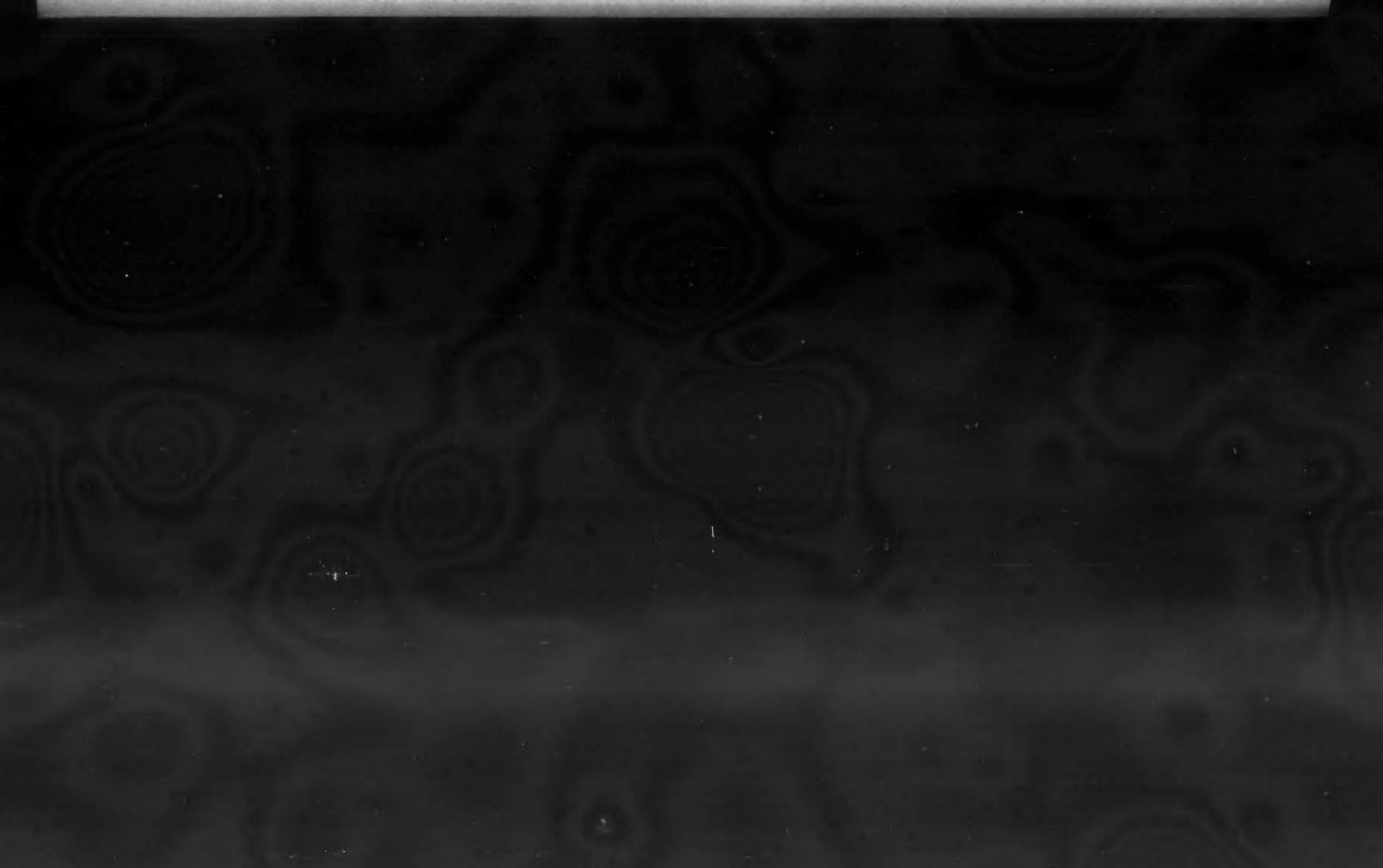

CANADIAN PUBLIC HEALTH JOURNAL

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Administrative Aids to Rural Health Service*

C. L. SCAMMAN, M.D.

Director, Division of Public Health
The Commonwealth Fund, New York

ALL of us are interested either directly or indirectly in the problems of public health administration. The chief concern of this paper is to outline methods and means of improving the quality of local health service and the administrative tools by which this may be accomplished.

†In at least three-fourths of the states of the Union, the county is the important unit of local government and our discussion is concerned chiefly with rural health service organized in county units, though the methods described are equally applicable to town unions, districts formed by combining small counties, or other units, even small cities. In 1934 there were 528 county health organizations in 34 states on a full-time basis with professionally trained personnel. The usual staff of a county health department consists of a medical health officer, one or more nurses, one or more sanitary inspectors, and one or more office assistants. The relationship of the state department of health to the county health department is fixed in each state by law and may be advisory or supervisory. The state usually pays a share of the cost of the local health service, in amounts varying from an almost insignificant percentage to more than half. Although the question of authority is at times important, the best results, most state health officers believe, occur where there is a fine spirit of co-operation and official and financial partnership between the state and local health authorities and a program of procedure agreeable to both is voluntarily adopted. In the smaller state health organizations responsibility for advising or directing local health service rests directly upon the state health officer. When it is possible for a state department to have four or five basic divisions, each with a competent director, the responsibility for supervising local health services is delegated to one. Sixteen states at the present time have bureaus or divisions of county health work with a director in charge. In several states when the

**Presented before a joint session of the Canadian Public Health Association with the Ontario Health Officers' Association and the Canadian Social Hygiene Council, Toronto, June 3, 1935.*

†Public Health Bulletin No. 184 (Revised); Health Departments of States and Provinces of the United States and Canada.

development of county health departments has made substantial headway, the counties are grouped into districts for administrative supervision. The district health officer plan, especially in the northeastern section of the country, until recently has been used primarily as an emergency arm of the state health department, concerned generally with the investigation and control of epidemic disease.

As has already been said, in 1934 there were in 34 states in the United States 528 full-time county health departments. In 1915 but 14 of these were in existence following the establishment of the first county health department in 1911 in Yakima County, Washington. Beginning in 1915 several developments took place, all of which had a very definite effect in improving the procedures and quality of local health service. It is our purpose to outline briefly some of these implements which have been of such distinct value in this development.

Every state health officer faced with the problem of the supervision of from ten to thirty local health services, on a county or district basis, will agree that the following facts should be available with regard to each health jurisdiction:

1. The nature of the district under consideration with regard to area, number, density, age and racial characteristics of the population, topography, climate, industry, and disease experience, as well as any special problem peculiar to this particular territory. In those instances in which there already exists a local health organization, he should know the age of the program.
2. The problems of personnel and their qualifications.
3. The scope and provision of the state health laws and regulations, relating to such an area.
4. Exact knowledge of the extent and sources of financial support.

THE APPRAISAL FORM FOR RURAL HEALTH WORK

With these facts determined, thought should be given to providing for local health service periodic administrative and technical guidance as well as assistance in the handling of special problems by the state authority. In this connection it would seem desirable to have the essential elements of local health practice reasonably well standardized and set up in the form of a manual of administrative procedures. Similarly, a record system should be planned which would make possible comparative studies of work in one local health department with that of another. It is my opinion that regular surveys and appraisals of local health jurisdiction at regular intervals by the staff of the state health department are essential to the maintenance of balanced program and improved performance.

In 1915 Chapin set up a percentage scheme for rating his own health activities which, as he said, indicated by means of figures their relative values. In 1925 the city appraisal form was set up by a committee of the American Public Health Association; and in 1927 a parallel form of appraisal standards was set up by the same association for rural areas. In both instances the

standards are based on actual accomplishment by a number of city and county departments. The ten activities scored are (1) vital statistics, (2) communicable disease, (3) venereal disease, (4) tuberculosis, (5) maternity hygiene, (6) infant hygiene, (7) preschool hygiene, (8) school hygiene, (9) general sanitation, and (10) control of food and milk, representing in total a thousand points. For example, under communicable disease control the following items are considered: reporting, diagnostic service, case investigation and recording, health department supervision, immunization, laboratory service, and community education—representing a total score for the communicable disease bracket of 100 points. The value of the ratings against the different functional activities is perhaps only an approximation, but it represents group judgment and is far better than pure guesswork, for it tells the health officer what needs to be done, and he can see for himself as well as show others.

Prior to the appearance of the appraisal form, many of us sat in our chairs and favoured this or that line of activity, according to the pressure being brought upon us at the moment, or because of an address or article we had recently read, or as the particular fashion of the hour dictated.

When an appraisal takes place in his county the health officer has an immediate appreciation of the value of records, discovers the lack of balance in his program due no doubt to a particular personal interest which he has developed for some functional activity, for example, child hygiene or venereal disease, and finds that the more he uses the appraisal the more he can define with some significance the worth while procedures undertaken. The appraisal when properly used becomes in fact an objective tool for intelligent supervision.

FIELD TECHNICAL SERVICE

To assure supervision which would result in such well-balanced programs in each area and a reasonably uniform program throughout the state, Tennessee in 1930 under Dr. Bishop's direction, and Mississippi in 1931 under Dr. Underwood's guidance, have set up a field unit or field technical service which operates out of the central office. This unit acts in an advisory capacity in technical public health procedures and assists the local department, but has no administrative authority delegated to it except in unusual circumstances. In other words, the effectiveness of the unit depends on the ability of its staff to demonstrate the advantages of approved technical procedures which are recommended.

Its personnel consists of a medical health officer, with actual field experience as a local health officer plus at least a year's training in a school of public health. In addition, this individual has tact and diplomacy, and the ability to get things done.

The second member of the staff is a nurse who has had supervisory or assistant supervisory experience in a local health department and who appreciates to the fullest extent the qualitative characteristics of nursing visits, their content, as well as the quantitative measure of a nursing job.

The third member of the staff is a sanitation officer, preferably with the

training of a sanitary engineer, although this training is not a *sine qua non* provided the individual is familiar with the problems of sanitation in the area and has demonstrated in a local jurisdiction ability to get results in this field.

The fourth member of the staff is the field clerk, whose job it is to advise and assist the local clerical staff in the proper handling and filing of records.

In addition to the annual appraisal of the local department, the director of the field unit goes over with the health officer the local services, aids the health officer in determining the most important problems in the area under consideration, discusses present and future plans, and suggests methods of accomplishment. He calls the local health officer's attention, for example, to the number of defects found in the examination of school children and makes the important point that in spite of the time and money spent on discovering these defects a very small percentage of them has been corrected. He relates these facts to the number of nursing visits to school children. He or his nursing assistant discusses the number of visits made by the nurse or nurses and sets up a quota in the several functional fields to be followed, depending of course on the problems to be met.

Records are studied with regard to their proper interpretation; budgets are considered with relation to the job in hand, and are planned with thought as to the amount of money available and the work to be accomplished.

Technical demonstrations are put on by the director of the field unit with the aid of the field unit nurse, covering such things as the proper plan and procedure to be followed in infant and preschool conferences, prenatal conferences, and immunization clinics. Efforts are made to interest the health officer and his nursing staff in the investigation of the source and mode of infection in acute communicable disease.

The field unit nurse, after studying the quantity and quality of service rendered by each local nurse, makes home visits with her to observe the effectiveness of nursing teaching and to demonstrate methods. She also visits clinics with the local nurse and in every manner possible raises the level of the quality and quantity of nursing performance.

Similar efforts are made by the sanitation officer, first in determining the local problems and then in planning the job with the local sanitation officer, in order that a sound program may be pushed forward from month to month and year to year with the proper recording of facts and accomplishments. The actual presence of a representative of the state health department in a local jurisdiction often lends sufficient prestige to the local sanitation officer to bring about immediate compliance with a rule or regulation. For example, an incorrigible milk dealer who has been found by the local sanitation officer exceedingly difficult to handle has been brought into line by the mere presence of a state official in the area.

The field clerk sees that each local department follows the procedures laid down by the record manual, and stimulates the local clerical staff to wring from each set of records the important factual information.

Visits to the local area by members of the field unit staff are scheduled in

advance through the director of county health work and are usually on an individual basis. But each member of the field unit at the end of each visit in the area of from several days to a week discusses with the local health officer his or her recommendations and in addition makes a formal memorandum of the visit with detailed observations to the director of county health work through the field unit director. A copy of the memorandum is left with the local health officer in the area.

Once a month, as a rule, the field unit staff as a group confers with the director of county health work with regard to the local health departments visited.

After study of the field unit reports the director of county health work, with the approval of the state health officer, sets in motion the machinery which will furnish the local health officer with any help needed. This aid is furnished by any one of the several bureaus or divisions in the state health department, such as vital statistics, engineering, child hygiene, or communicable disease. If aid is needed from sources outside the state health department, such as the state or federal department of agriculture, for example, the director of county health work in his position as deputy commissioner of health makes the necessary contact.

Field unit reports of visits to local health departments are filed and made available to all bureau and division directors. Copies of all pertinent reports with regard to local health service are carried by the field unit staff when revisits are made to a particular area. This enables the staff to check on progress made and prevents unnecessary duplication of effort as well as ensuring continued service with a definite purpose in mind. In other words, it reduces to a minimum the number of casual and unproductive visits by members of the state health department staff.

The whole spirit of the field unit is one of efficiency, of authoritative knowledge, of skill and thought in the several functional fields, which brings to each health officer not only a high-grade advisory service but a very personal and sympathetic contact at regular intervals between the state department and the local health officer and his staff. Such a field unit not only brings the policies of the central office to the attention of the local health officer, but gathers from the several local health departments ideas with regard to variety and methods of procedure in the several fields, the best of which the field unit in turn transmits, as it goes about, to other local departments to their advantage.

Various specialized technical services have been and are being offered in several fields by state health departments; one of the most notable perhaps is that of a field diagnostic tuberculosis service which, with the aid of portable x-ray equipment, a technician, and a well qualified diagnostician, brings to the rural area and to the practising physician high-grade service which makes possible the early and expert diagnosis of cases and examination of contacts.

THE EPIDEMIOLOGICAL UNIT

In order to give impetus to and create greater interest in epidemiology on

the part of the local health officer and his staff, a specialized service in this field is being carried on in Mississippi.

The personnel of this service is made up of a medical director, a nurse, and a bacteriologist. The first two of these individuals, in addition to their basic experience in public health, have had special training in the investigation of and the institution of control measures for acute communicable diseases. These two individuals visit a county together for a period of from two to four months, during which time they work with the local health department staff. They devote their efforts to teaching the local health workers the principles of field epidemiology, placing particular emphasis on the investigation of sources and modes of infection, and the importance of accurate and complete records, the effective follow-up of cases and contacts, and the several possible channels of spread. Practising physicians are contacted. They are told of the importance of early diagnosis and consultation in any case of suspected communicable disease. They are informed of the services which the local and state health departments provide for their use in the way of diagnostic service, of vaccines and sera, and in laboratory services.

The bacteriologist with the unit is located in the central laboratory where she examines specimens sent in from the counties in which the epidemiological unit is working. In addition she is concerned with improving the various procedures having to do with a particular type of specimen from the time it is secured in the field, through its transmission to the laboratory, the technical examinations therein, to the final report of findings.

In short, the epidemiological unit makes a particular effort to co-ordinate, in so far as it is possible, all the factors, both of personnel and of services, which play a part in making effective the prevention and control of communicable disease. This type of service to a local health unit is analogous to that offered by the field unit mentioned above and after it has accomplished its purpose, namely to raise the level of epidemiological interest and activity to a point justified by its importance, it should logically become the continuing responsibility of the field unit or field technical service.

In addition to aids already mentioned, specialized services have been offered by state health departments in the setting up of venereal disease clinics and in diagnostic services primarily in connection with widespread or severe outbreaks of some particular type of communicable disease such as acute anterior poliomyelitis, meningococci meningitis, pneumonia, etc., although these are ordinarily of a temporary nature. Various other specialized services, usually not available locally, have been set up from time to time in other fields, such as diagnostic orthopaedic service for crippled children, dental and other services which will occur to you, including diagnostic clinical service for chronic diseases, especially cancer.

In conclusion, several administrative aids have been discussed as tools for the improvement of local health service. Among those which have been emphasized as especially useful in states with local, county, or district health units are (1) the appraisal form for rural health work, (2) the field unit or field technical service, and (3) the epidemiological unit.

The Alberta Health Insurance Act

A. C. McGUGAN, M.D.

Secretary, State Health Insurance Commission, Edmonton

DURING the past decade a steadily growing interest in matters of medical administration and the provision of medical services has been manifested in Alberta. Certain groups, through resolutions and petitions, have expressed dissatisfaction with the individual method of purchasing medical and allied services. In 1928 a resolution calling for an enquiry into existing systems of state medicine and health insurance was passed in the Legislature. The enquiry was made in 1928 and a report tabled in the Legislature in 1929. In 1932 the following resolution was unanimously adopted by the Legislature:

> "WHEREAS, arising out of a resolution adopted by the Legislature, information has been collected and presented on the subject of State Medicine and Health Insurance: now, therefore, be it
>
> "RESOLVED that this Government is hereby instructed to appoint a commission consisting of at least five members of this Legislature for the purpose of:
>
> "(*a*) Considering and making recommendations to the next session as to the best method of making adequate medical and health services available to all the people of Alberta;
>
> "(*b*) Reporting as to the financial arrangements which will be required on an actuarial basis to ensure the same."

A commission, on which all parties in the Legislative Assembly had representation, was appointed by Order-in-Council in 1932. This commission presented a progress report in 1933 and a final report in 1934. In April of the present year the Alberta Health Insurance Bill was introduced by the Minister of Health and assented to on April 23, 1935.

The following outline contains the essential features of the Alberta Health Insurance Act.

Those entitled to give service under the Act include any medical practitioner registered with the College of Physicians and Surgeons under the Medical Profession Act; any dental practitioner registered with the Provincial Dental Association under the Dental Association Act; any nurse registered under the Registered Nurses Act; any Approved hospital for the purposes of the Hospitals Act.

Those entitled to receive services include every resident of an Urban or Combined Medical District as constituted under the Act. A resident is defined as any person who has had his home in a medical district for three successive months during the six months preceding the date on which a claim for service is made.

SERVICES

(1) *Full-Time Public Health Service*

Each administrative unit will be so designed that it can support a full-time public health service similar to that provided by the existing full-time preventive services in the Red Deer and the Foothills rural health units. Such units will be staffed by a trained medical officer of health, two or more public health nurses, a sanitary inspector and a secretary-technician.

(2) *Complete Medical Services*

All medical services will be provided, including major and minor surgery and obstetrics. Provision for the reference of cases presenting special problems has been made. Ordinarily the patient will have the choice of any doctor in the medical district in which he resides. Such provision will give the patient the choice of about twenty medical practitioners. Referred services will be provided when the local attending physician considers such reference necessary.

(3) *Drugs and Surgical Appliances*

These will be provided when prescribed. Eye glasses will not be provided unless at a later date it is discovered that their provision is economically possible.

(4) *Dental Service*

A limited dental service will be provided at first. This service will include extractions, fillings, and orthodontia, but replacements—plates, bridges, etcetera—will not be provided unless it is later discovered that their provision is an economic possibility.

(5) *Private Nursing Service*

This will be provided only under special circumstances where such service is indicated. Most of the nursing services will be provided in the hospital.

(6) *Hospitalization*

Hospitalization, including the usual hospital facilities such as x-ray and other laboratory services, operating room services, etcetera, will be provided. Public ward accommodation will be given except when the patient's condition is such as to require a private or semi-private room.

ADMINISTRATION

Units

The Act provides for *urban* and *combined* administrative units. The urban units will comprise cities with a population of over twenty thousand and the combined units will consist of a sufficient number of municipal districts and the urban centres within their borders to provide a population of

from fifteen to twenty thousand. Some six or eight municipal districts will be required for each combined unit. A municipal district is eighteen miles square.

Provision for Organizing a District

A sufficient number of contiguous municipalities must indicate their desire to be created a "combined medical district" for the purposes of taking a vote. A majority over the whole medical district obligates every municipality, urban or rural, in the district. The scheme is compulsory for all residents of the district after it has been endorsed by a vote.

Governing and Administrative Bodies

The control of the operation of the scheme is vested primarily in a provincial *commission* of three members who will be a body corporate and have all the powers conferred upon commissioners under "The Public Enquiries Act."

A *local advisory board* consisting of one representative from each municipality in a combined medical district will meet about twice each year to make recommendations to the central Commission.

A *local board of reference* consisting of the chairman and secretary of the advisory board and the member of the advisory board representing the municipality concerned in the matter of reference, is appointed to deal with any matter of a non-professional nature. This board meets as occasion requires.

A *professional board of reference* consisting of members of the profession concerned in the matter of reference is appointed to deal with matters of a professional nature. This board consists of three members, one appointed by the local advisory board, one by the provincial governing body of the profession concerned and one by the Commission.

COST OF SERVICES

The costs of the scheme are based on the findings of the Alberta Health Insurance Commission as contained in their Final Report of 1934.

The cost is based on a per capita charge of $14.50. This cost is apportioned as follows:

Municipality	Province
7/9 or $11.28	2/9 or $3.22

These sums are to be forwarded to the Commission quarterly in advance.

Collection

The responsibility for collection is borne by the municipalities, and the Commission allows the municipality two per cent for the costs of collection.

The individual contribution is predicated on the basis of there being three persons dependent upon each income.

Thus each income-earner unit represents a cost of 3 × $14.50 per capita = $43.50 per year.

Employees

This cost in the case of wage earners is distributed as follows:

Payment by Employer	Payment by Employee	Payment by Province
2/9 of $43.50 = $9.67 or 80c. per month	5/9 of $43.50 = $24.16 or $2.02 per month	2/9 of $43.50 = $9.67 or 80c. per month

The employer remits his own share and the employee's share monthly to the secretary of the municipality concerned.

A stamp system of collection similar to that used in England will be used for contributions where employment is casual—hourly or daily.

Individuals in Private Enterprise (Not Employees)

Payment by Individual	Payment by Province
7/9 of $43.50 = $33.83 per year or $2.82 per month	2/9 of $43.50 = $9.67 per year or 80 cents per month

To summarize: An employee, regardless of the number of his dependents, will be required to contribute $2.02 per month and an individual, not an employee, will be required to contribute $2.82 per month.

Provision will be made for monthly, quarterly or yearly contributions from this group.

Payment for Services Rendered

Schedules will be arranged between the Commission and the various professional groups giving services under the Act.

Those giving services will present accounts to the Commission before the tenth day of each month for services rendered during the month next preceding. Accounts will be taxed and paid by the Commission.

The Commission may, with the approval of the Lieutenant-Governor-in-Council, make regulations under the Act.

PROPOSED PLAN

It is proposed that one demonstration district be organized during the present year and that the experience gained in this district be applied to the rest of the province at a later date. In such a district, services and rates as outlined in the Act will, of course, have to be guaranteed by the Provincial Government.

Vitamin D Milk*

E. W. McHENRY, M.A., Ph.D.

Department of Physiological Hygiene, School of Hygiene, University of Toronto

IT is a commonly accepted and frequently quoted truth that milk is our best food, supplying complete protein, fat, carbohydrate, calcium, phosphorus, and vitamins A, B_1, and B_2. Yet it is not all-sufficient. Animals reared on a diet consisting almost entirely of milk develop an anaemia because milk contains little iron. Our ordinary milk is such a poor source of vitamin C that it is essential to provide an antiscorbutic supplement for bottle-fed infants. In respect also of vitamin D, milk is markedly deficient.

Within the past few years several procedures have been advocated to augment milk to overcome its deficiency of vitamin D. We shall presently examine the suitability of such steps but in passing it may be briefly said that there is nearly as much justification for adding other ingredients to milk to increase the iron and vitamin C contents.

Four procedures have been devised to increase the amount of antirachitic factor in milk. These are:

1. *Irradiation of the milk by means of a concentrated source of ultra-violet energy.* This process is used in several local dairies.

2. *Addition of cod liver oil concentrate to the milk before pasteurization.* This has not met with great favour in this country but milk treated in this way is acceptable for sale in many sections of the United States. This method is frequently referred to as the Zucker process, since patents covering the preparation of the concentrate were taken out by Zucker.

3. *Inclusion of a good source of antirachitic factor, such as irradiated ergosterol, or irradiated yeast, in the diet of the cow.* It has been shown that a great deal of vitamin so given is excreted in the milk. Such milk is often called "metabolized vitamin D milk."

4. *Irradiation of the cow.* Obviously this presents some technical and economic difficulties and has been used only for experimental purposes.

The first attempt to augment the amount of vitamin D in milk was made in France in 1924 by Lesné and Vagliano, who gave cows cod liver oil with successful results. The following year Hess and Lewis in New York found that milk could be made a good antirachitic agent by irradiation, a process which forms antirachitic substances from inactive precursors such as ergosterol. In 1929 Wachtel in Germany fed cows irradiated yeast, and found, as did Steenbock and Hart, that the milk from these cows contained a fair amount of vitamin D. Somewhat later Krauss and Bethke fed viosterol to cows with a similar result. The animal and human experiments carried out by these and other workers showed that the amount of vitamin D could be considerably increased in milk and there was the inevitable result, the commercial exploitation of vitamin D milk. On this continent vitamin D

*Presented before the Laboratory Section at the Twenty-fourth Annual Meeting of the Canadian Public Health Association, Toronto, June 5, 1935.

milk was first sold on a large scale in Detroit in the winter of 1932-33. We are now all familiar with advertisements for this product.

The question with which we are particularly concerned is, Is there ample justification for the widespread sale of vitamin D milk? Many arguments, pro and con, have been advanced, and we shall examine these briefly, dealing with them in that order.

There is, to-day, no need to question the commonly accepted opinion that infants deprived of antirachitic factor develop rickets, nor that rickets can be prevented or cured by the administration of any one of the numerous available antirachitic substances. Despite the widespread knowledge regarding this among even the laity, rickets still occurs. This is probably due, in part, to the failure of mothers to co-operate with physicians in giving a source of vitamin D continuously through infancy. The substance ordinarily used is cod liver oil and its objectionable odour and taste are inhibitory to regular treatment. Bizal found in a recent survey in New York State that, of 524 babies studied, 41.8 per cent had never been given cod liver oil.

Nature intended us to develop the needed antirachitic factor within the body by exposure to sunlight. In modern civilization that is nearly impossible. Moreover, in cities a great deal of the ultra-violet is removed from sunlight before it reaches us by the smoke and dust particles in the atmosphere. Only one or two articles of an ordinary diet contain appreciable amounts of antirachitic factor. Infants certainly need vitamin D and it is not contained in ordinary milk. The use of antirachitic supplements is necessary and the commonly recommended ones, cod liver oil, halibut liver oil, and viosterol, require the continuous co-operation of the mother. The automatic supply of vitamin D in needed amounts offers an advantage and this is the principal argument in favour of vitamin D milk. Milk is the main article of diet of infancy, the period of life during which vitamin D is particularly needed. The use of vitamin D milk furnishes the essential antirachitic factor in a way requiring no co-operation. Samples of vitamin D milk prepared by all four procedures listed previously have been tested for potency on rats by accepted procedures and, much more important, on infants. All four methods yield milk containing vitamin D but not in uniform amounts. Samples of milk properly irradiated have been found to contain about 160 units per quart.* By feeding vitamin D to the cow, milk of varying potencies is secured, depending upon the amount fed, but there can easily be secured milk containing 500 units per quart. Milk of almost any potency can be prepared by the addition of a vitamin concentrate but ordinarily about 500 units are added per quart. Irradiation of the cow gives doubtful and widely variant results.

Of the many reports which have been published dealing with clinical results it is possible to cite only a few. Hess, Lewis, McLeod and Thomas in 1931 reported results from a series of 102 infants using milk from cows fed viosterol or irradiated yeast. They found that rickets could be prevented when the children were given this milk exclusively but in ordinary amounts.

In every case in this paper, unit refers to the present International unit.

Hess and Lewis (1933) and Drake, Tisdall and Brown (1934) studied the use of irradiated milk. The first authors concluded that about 100 units per day in milk was sufficient to prevent rickets, while the second group found an almost similar result. Barnes (1934) used milk fortified with a vitamin D concentrate and decided that about 135 units per day given in this manner would prevent rickets. It can be seen that these more recent figures are not widely different and give us an approximate estimate of an infant's need for vitamin D. All these results indicate that the vitamin D milks employed were useful antirachitic agents.

A serious argument against the sale of vitamin D milk is the belief of many of us that manufacturers should not exploit scientific advances in nutrition without adequate control. The situation has been ably summarized by Sir George Newman in an official report:

"There is a tendency at the present time for manufacturers to avail themselves of the publicity value of recent vitamin research by adding vitamins empirically to a variety of foods without due consideration of the results which may accrue from such haphazard practices. If a halt is not called to this indiscriminate dosing of foods with vitamins there is a possibility of a disturbance in the balance of nutrition which may have wide-reaching effects and which it is not unreasonable to contemplate with some uneasiness."

In making this statement Newman assumed that the vitamins were actually being added to the foods. Unfortunately the situation is worse than this. As I pointed out in a paper* given before this section last Christmas, it is easily possible to furnish illustrations where the vitamins have been added in the advertising department. Claims for vitamin content are frequently not based on actual measurements and they amount to fraud. Moreover, the present day advertising campaigns carried on by some companies hinder sound advances in nutrition by giving people misleading ideas.

With this situation in mind, can anything be said to justify the sale of vitamin D milk? Of all the foodstuffs which have been so far used as vehicles for extra vitamins milk is the only one which can be strongly defended. It is the universal food of infants and only during childhood, particularly during the first two years, has the need for vitamin D been clearly proved. The addition of vitamin D to milk is, then, in this sense logical. It has been demonstrated that vitamin D milk will prevent rickets; no other results have been proved. The advertisements of dairies should be limited to this one aspect. Vitamin D milk will not prevent the common cold, nor has it yet been shown to reduce the extent of dental caries.

Vitamin D milk is slightly more expensive than ordinary milk but the cost is not prohibitive. The use of vitamin D milk by three children in an average family would increase the dietary budget by about 30 cents per week. It is interesting that one brand of canned irradiated milk can be purchased retail in Toronto at slightly below the cost of ordinary milk, and by its use infants may be given vitamin D milk without extra cost.

A serious objection to the sale of vitamin D milk is that, with present methods, it is impossible to determine and supervise the vitamin content continuously or even frequently. Available methods for assaying vitamin D

*This JOURNAL, 26: 124, 1935.

are expensive and time-consuming. All that can be done is to permit for sale milk augmented by a process which has been shown to yield a potent product and then to follow that process rigidly. It would be highly advisable, in communities where vitamin D milk is being sold, that the health authorities regularly inspect the process to ensure that it is satisfactory and that it is being rigorously followed. Obviously there are opportunities for fraudulent practices.

The question of control of vitamin D milk has become much more complex than has previously been supposed. For some years evidence has accumulated and is now clear-cut that there are several antirachitic factors, different chemically and physiologically. Preparations of equal strength in rat assays are not of equal potency clinically. It will now be necessary to evaluate the various vitamin D's in terms of human units.

No untoward effects have yet been reported in the use of vitamin D milk in infant feeding. The low activity per unit of volume renders unlikely the possibility of hypervitaminosis unless several other rich sources are included in the diet.

The present situation with regard to vitamin D milk may be summarized as follows: By several methods it is possible to augment appreciably the antirachitic activity of milk and the product has been shown in a number of clinical tests to be useful in the prevention of rickets. No other benefits have been shown to result from its use. Claims for vitamin D milk should be limited to the proved results. If the sale of vitamin D milk is permitted, careful supervision should be given to the process since routine assays are impossible.

REPORTED CASES OF CERTAIN COMMUNICABLE DISEASES IN CANADA* BY PROVINCES—FEBRUARY, 1935

Diseases	P.E.I.	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Diphtheria	—	15	1	66	27	27	7	1	—
Scarlet Fever	1	42	25	511	563	85	58	47	95
Measles	—	358	38	2205	4763	1044	1057	69	157
Whooping Cough	3	17	36	422	688	134	126	13	274
German Measles	—	83	—	43	1757	45	3	2	16
Mumps	—	152	14	140	1096	105	2	18	103
Smallpox	—	—	—	—	2	—	—	—	—
Cerebrospinal Meningitis	—	1	1	2	2	4	—	—	—
Anterior Poliomyelitis	—	—	—	—	—	1	—	—	—
Typhoid Fever	—	—	1	28	12	3	3	—	1
Trachoma	—	—	—	—	1	1	3	—	1

*Data furnished by the Dominion Bureau of Statistics, Ottawa.

The Place of the Family Doctor in a Public Health Program*

WARD WOOLNER, M.D.

President, Ontario Health Officers' Association, and Medical Officer of Health, Ayr, Ontario

IN Ontario, in my opinion, very little preventive medicine is practised by the family physician. The little that may be considered as preventive medicine consists too often in the occasional immunization against diphtheria of a child that has been brought to the physician's office by an interested mother. The limited extent of such practice is shown by the experience in my own municipalities, where less than one per cent of the children have been brought to their family physician for diphtheria immunization or for vaccination against smallpox. For ten years I made every endeavour to have school children and those of preschool age vaccinated during the summer months, but without result. When, however, we offered to do this work in the schools, more than 90 per cent responded.

The conducting of periodic health examinations, the supervision of expectant mothers, and other important services, have not been considered seriously by the practitioners. It is the sad experience of health officers to find that doctors often fail even to report cases of communicable diseases. One may fairly conclude that the family doctor has taken a very small place in practising preventive medicine and in organized public health work, in so far at least as eastern Canada is concerned, under our present system of medical practice.

In Western Canada, notably in Saskatchewan, a system of municipal doctors has been employed. At the present time thirty-six physicians are giving full-time services and twenty-seven part-time services in that province. As almost all of these municipal physicians serve as medical officers of health, one would expect that the practice of preventive medicine would receive much greater attention than is possible under our present system of medical practice. As far as I can learn, there is little evidence of the practice of more preventive medicine by such physicians. Too much may be expected by the communities and the municipal physicians may not be able to give the service which would be possible if unreasonable demands were not made. There is, however, ample evidence in Saskatchewan that the family doctors participate to a greater extent in the public health program. This is shown notably in the control of tuberculosis. Saskatchewan has the lowest tuberculosis death rate in any province in Canada and has provided a most effective service for the following of all suspects and contacts, providing free hospitalization for every case requiring sanatorium treatment. In this program the family doctor in rural areas participates actively. If judged by the number of life insurance policy holders who

**Presidential Address to the Ontario Health Officers' Association read before a joint session with the Canadian Public Health Association, the Canadian Tuberculosis Association and the Canadian Social Hygiene Council, Toronto, June, 1935.*

have accepted a free annual health examination as offered by several companies, namely 27 per cent of acceptances, there is a greater appreciation of the importance of preventive medicine in Saskatchewan than there is in Ontario where only 18 per cent, as reported by one large insurance company, have accepted this offer. One would believe that the extensive publicity about cancer and the advantages of health examinations would result in a much larger percentage of policy holders accepting the privilege of such free health examinations. Saskatchewan has done a little better than Ontario in using her family doctors in the health program. What is true of Saskatchewan is true also of the other western provinces.

Will a system of health insurance make possible the practice of preventive medicine in a more adequate manner? When Mr. Lloyd George introduced his Health Insurance Act in 1911, it was expected that the panel system would result in every doctor's office becoming a little health centre. To support this it was pointed out that it was in the doctor's own interests to take every step which would reduce the amount of sickness and prevent unnecessary illnesses. What has been the result? Let me quote from a letter of Dr. Alfred Cox, late Secretary of the British Medical Association:

"The present system hardly touches individual preventive medicine, but it ought to, because it is based on the right principle. The doctor is paid whether the patient is ill or well. I believe the newer generation is beginning to see the matter in its right light, and with a little pressure from the public and from medical organizations the time will come when doctors who are being paid by contract will enter with enthusiasm into the idea that they ought to try to keep their potential patients well."

He states further:

"There has, as yet, been no sign of that co-ordination between the two services—insurance and public health—that there ought to be. In a few instances the medical officer of health sees that he can popularize immunization very much better by getting it done by the family doctors. The private doctor must learn to regard himself, and be treated as a member of the team which is trying to improve the health of the community."

It is only fair to state, however, that under the panel system in England the general health conditions have definitely improved. The death rate has fallen sharply and the infant death rate, which is such a sensitive index, has markedly declined. We must assume, therefore, that under the panel system in England the family doctor has accomplished something for the general health of the community.

How do I propose to bring the family doctor into the public health program and to use his services more freely and effectively? First may I refer to the successful efforts of Dr. Henry F. Vaughan, Commissioner of Health for the City of Detroit, to introduce a public health program in which the practising physicians would have a very definite part. The following quotation from a recent letter from Dr. Vaughan outlines the purpose of his effort:

"I am sure that you will see our program is by no means limited to an effort to secure the protection of susceptible children against diphtheria or smallpox. Our prime purpose is to have the physician practise preventive medicine along with curative medicine in his office. We are just as much interested in discovering the early case of tuberculosis and in providing continuous medical supervision for the child from the time of birth to the period of adolescence and even on into adult life. We believe that the practitioner of the future will be concerned more with preventive than with curative medicine. One of the best ways to cut down the cost of medical care is to keep people well. We have been able

to demonstrate that this can be done with satisfaction to the public, the individual, and to the health department, and with economic advantage to the physician."

Similar successful plans are operating in counties in Southern Michigan, through the co-operation of the Kellogg Foundation of Battle Creek, Michigan, and in Charleston, West Virginia, and Albany, New York. In Vancouver an effort is being made to utilize the services of the family physicians in a program of immunization with diphtheria toxoid of all babies. In these plans the family doctor's office becomes a real health centre.

In each of the cities there is a well organized local health department which functions and will continue to function, but the family doctor has become a very important factor in the health organization. In these centres the new scheme was carefully explained to the practising physicians and they were invited to join in rendering the proposed services. Each doctor signs an agreement to set aside a definite amount of time each week for health work. When a campaign of toxoid immunization and vaccination against smallpox is undertaken, the press, radio, teachers, nurses and even the churches are used to advise the public of the advantages of this particular health work. The teachers and nurses arrange to have the children attend the office of their family doctor. The doctor keeps a record of his work and reports each treatment to the board of health. If the parents can pay for the service, they are expected to contribute a reasonable and agreed amount. If they are unable to pay anything, the municipality pays half of the agreed fee. In addition to being given toxoid and vaccinated against smallpox, the children are examined for tuberculosis. The results have been most encouraging in both the United States and in England, where such a plan is being tried in the Royal Borough of Kensington, London.

In so far as the rural areas of Ontario are concerned, it might be difficult to have the children visit their family doctors for examination, and the continuation, for the present at least, of the conduct of this work in schools or clinics may be necessary. In the urban centres the plan is promising and should be given a fair trial in Ontario. With our present provision of medical relief the children from all homes on relief could be looked after without any extra cost to the municipality.

I have not discussed supervision of the health of the school child nor other aspects of public health work as at present conducted, desiring simply to introduce for discussion a plan for the more active participation of our practitioners in preventive medicine. I wonder if our family doctors are doing all that they can to popularize periodic health examinations? The periodic health examination of all persons over forty years of age is essential and many deaths from cancer and other conditions might be prevented. The ultimate purpose of any plan for improvement in practice is to make available for every Canadian the full benefits of curative and preventive medicine, irrespective of individual ability to pay, and at the same time to assure practitioners in medicine and others associated in the provision of medical care a reasonable remuneration for their services. The income of the family doctor is being reduced by preventing diphtheria, typhoid, smallpox, tuberculosis, cancer and many other diseases. Why not have him share in the remuneration which must be paid to those who work for the prevention of these diseases?

The History of the Department of Public Health of Alberta

MALCOLM R. BOW, M.D., C.M., D.P.H., *Deputy Minister of Public Health*
and F. T. COOK

PREVIOUS to the year 1905 the territory now known as Alberta was governed by the administrative body of the North West Territories. These territories included the Districts of Assiniboia, Saskatchewan and Alberta. Dr. M. M. Seymour, as Medical Officer of Health, was in charge of the administration of public health services for the North West Territories at that time and Dr. G. A. Charlton acted as Bacteriologist.

On the first of September, 1905, public health services, which had been administered under the Public Health Ordinance of the North West Territories, were transferred to the Department of Agriculture of the newly formed Province of Alberta, under which department they remained until January, 1918.

Early in the year 1906 Dr. A. E. Clendennan was appointed Provincial Medical Officer of Health by the Honourable W. T. Findley, Minister of Agriculture. Dr. Clendennan was thus the first Provincial Medical Officer of Health of Alberta.

In 1906 the first Public Health Act of the province of Alberta was drafted and in March, 1907, became law. It provided for the creation of a Provincial Board of Health consisting of five members to which it gave authority and responsibility in regard to making and administering the public health regulations of the province. This Act also provided for the division of the province into health districts and for the creation of a local board of health in each health district, each local board being placed under the supervision of the Provincial Board of Health. In 1907 Dr. Clendennan resigned and was succeeded by Dr. L. E. W. Irving.

The first Provincial Board of Health was appointed in July, 1907, and was composed of the following members: Dr. J. D. Lafferty, Calgary, Chairman; Dr. F. H. Mewburn, Lethbridge; Dr. C. N. Cobbett, Edmonton; Dr. L. E. W. Irving, Provincial Medical Officer of Health, and Mr. R. B. Owens, Provincial Sanitary Engineer.

A new Public Health Act was passed in 1910, under which the authority and the responsibility of the Provincial Board of Health were extended. Under this Act the Provincial Board of Health was reduced to three members: the Provincial Medical Officer of Health, who was appointed chairman, the Provincial Sanitary Engineer, and the Provincial Bacteriologist. The Board has been so constituted since that time.

In 1912 Dr. L. E. W. Irving resigned as Provincial Medical Officer of Health and was succeeded by Dr. W. C. Laidlaw, who carried on in this capacity until 1914 when he and Dr. A. C. Rankin, Provincial Bacteriologist, were granted leave of absence to serve overseas. During the war years the

work of the Department was carried on with Dr. T. J. Norman as Provincial Medical Officer of Health, Dr. Heber Jamieson as Provincial Bacteriologist, and Mr. R. B. Owens as Sanitary Engineer.

In the years before the war the Provincial Board of Health was faced with many public health problems arising from the great movement of new settlers into the province. During these years large expenditures of money were made on the installation of waterworks and sewage disposal undertakings in the various cities and towns of the province. This work, together with the endeavour to secure the co-operation of local boards of health in maintaining good sanitary conditions within their borders, occupied the major time and attention of the Board.

During these years this burden was very largely carried by Mr. R. B. Owens, B.A., B.E., who, in addition to his work as Sanitary Engineer, undertook all sanitary inspection work. He was appointed Provincial Sanitary Engineer in 1906 and Assistant Deputy Minister in 1927. From the time of his appointment in 1906 until his retirement in January of the present year, Mr. Owens was the only member of the Provincial Board of Health to serve continuously. To his wisdom and zeal is due much of the success which has attended the work of the Department.

On the first of January, 1918, the public health service was transferred from the Department of Agriculture to the Department of the Provincial Secretary under the Honourable Geo. P. Smith, Provincial Secretary. Under his administration the Public Health Nursing Branch was organized and the first sanitary inspectors appointed to the staff. Mr. G. E. Cottle and Mr. E. C. Alexander, qualified sanitary inspectors, were selected and became the first regular sanitary inspectors in the province. In August, 1918, another transfer of the public health service was made, this time from the Provincial Secretary's Department to the Department of Municipal Affairs, under the Honourable A. G. MacKay, as Minister.

At the 1919 session of the legislature the Department of Public Health Act was passed and the Honourable A. G. MacKay became first Minister of Health. Alberta was the second province in Canada to establish a Ministry of Health, New Brunswick having the distinction of being the first. These two were the first to be established in the British Empire.

In the Department of Public Health Act, authority is given the Department to administer all provincial matters which relate to public health, as contained in the following Acts, namely: The Public Health Act, The Public Health Nurses Act, The Registered Nurses Act, The Municipal Hospitals Act, The Hospitals Act, The Alberta Pharmaceutical Act, The Venereal Diseases Act, The Medical Profession Act, The Dental Association Act, The Marriage Act, and the Vital Statistics Act. During recent years the following Acts have been passed and are now administered by the Department: The Private Hospitals Act, The Mental Defectives Act, The Mental Diseases Act, The Sexual Sterilization Act, The Chiropractic Act and the Chiropody Act.

In 1920 Dr. E. A. Braithwaite was appointed Medical Inspector of Hospitals. This officer also acts as Provincial Coroner and a part of his duty, in addition to the inspection of hospitals, is to investigate weekly operation

reports from all hospitals and to collect statistics in connection with operations performed in hospitals.

On the death of the Honourable Mr. MacKay in April, 1920, the Honourable C. R. Mitchell was appointed Minister of Health and served until the advent of the present Government in 1921, when he was succeeded by the Honourable R. G. Reid.

In 1923 the Honourable Mr. Reid was succeeded as Minister of Health by the Honourable George Hoadley, the present Minister. Since the appointment of Mr. Hoadley as Minister, the work of the Department has continued to expand and a number of new health services have been established.

In August, 1926, the Department and the Province suffered a very great loss in the death of the Deputy Minister, Dr. W. C. Laidlaw. For the next six months the affairs of the Department were administered by Mr. R. B. Owens as Acting Deputy Minister. In February, 1927, the writer was appointed to succeed the late Dr. Laidlaw as Deputy Minister of Health, Provincial Medical Officer of Health, and Chairman of the Provincial Board of Health.

An Advisory Committee of Health was appointed by the Minister in 1929, which, as its name implies, acts in an advisory capacity to the Department. This committee meets once each year at the call of the Minister and consists of one representative from each of the following: the College of Physicians and Surgeons; the Faculty of Medicine, University of Alberta; the physicians at large, the city medical officers of health, the nursing profession, the city hospitals, the municipal hospitals, the urban laymen, the rural laymen, the urban women, and the rural women.

LOCAL HEALTH ORGANISATION

Under the Public Health Act it is required that there shall be a board of health in every health district which shall be responsible for carrying out the provisions of the Act. In cities and towns it is provided that the local board of health shall consist of the mayor, the medical officer of health, the municipal engineer (if any), and three ratepayers who shall be appointed by the council for a period of three years, one member retiring each year.

It is provided that the medical officer of health shall be an executive officer of the board, and in the intervals between meetings of the board shall exercise the authority and perform the duties of the board.

In each village or municipal district the local board of health is to be composed of the members of the council, the medical officer of health (if any), and the sanitary inspector (if any), and the secretary-treasurer of such council is to be the secretary of the board.

Authority of the Provincial Board

The Provincial Board is given authority to inquire into the measures which are being taken by the local boards for the limitation of any dangerous or communicable disease and into the performance of any duty by virtue of the powers conferred upon local boards under this Act or any other Act; and should

it appear that efficient measures are not being taken or that any such duty or power is not being performed or exercised by a local board, the Provincial Board shall require the local board to exercise any of the said powers which, in the opinion of the Provincial Board, the urgency of the case demands. It is given authority to deal with all health matters in local improvement or unorganized districts. Finally, the Provincial Board, subject to the approval of the Lieutenant-Governor-in-Council, is empowered to make and issue rules and regulations for the prevention, mitigation and suppression of disease, and may alter or repeal such rules and regulations.

VITAL STATISTICS

In 1905 the statistical records for the territory of Alberta were transferred from Regina to Edmonton and the registration of vital statistics, together with the administration of public health, was conducted under the Department of Agriculture, being transferred later to the Provincial Secretary's Department and subsequently to the Department of Municipal Affairs.

From 1905 to 1919 the Minister of the Department administering the Act was Registrar General, the Medical Officer of Health was Deputy Registrar, and from the time of his appointment in 1913 to 1919, Mr. Donald Mackie was Acting Deputy Registrar and the Director of the Bureau. With the establishment of the Department of Health in 1919 the Deputy Minister became *ipso facto* the Registrar General, and the Director of the Bureau became the Deputy Registrar. The work of the Bureau of Vital Statistics, as the branch has been known since 1905, is carried on under the supervision of the Deputy Registrar. Associated with him are an Assistant Deputy, a central office staff of eleven members, an inspector, and a varying number of local registrars (approximately 775) who are usually local postmasters or other government officials and who are directly responsible to the Bureau of Vital Statistics.

In 1925 Mr. A. M. Zalizniah, who had almost completed a medical course in Russia before the war and who speaks several languages, was appointed Inspector of Vital Statistics and Health. This inspector visits district registrars from time to time and consults with doctors, clergymen and others in regard to vital statistics. He is also engaged in immunization work in frontier districts and gives lectures on public health in these districts, in which a yearly average of approximately 2,000 people are immunized against diphtheria and smallpox.

PROVINCIAL LABORATORY

The Provincial Laboratory was established as a division of the Department in 1907 with Dr. D. G. Revell as Provincial Bacteriologist. In 1911 the Laboratory was transferred to the University of Alberta and placed under the direction of Dr. A. C. Rankin, Dean of the Faculty of Medicine, who was appointed Provincial Bacteriologist. This association with the University,

which is unique in many respects, has worked exceedingly well. It gives the Department the benefit of the advice and assistance of a highly skilled staff, engaged not only in routine laboratory work but in teaching and research as well. The monetary value of the services rendered by the Laboratory in a recent year was estimated to be $157,000.

PUBLIC HEALTH NURSING

The public health nursing service was established in 1918 under the régime of the Hon. G. P. Smith, the Provincial Secretary, whose department was at that time administering the public health services. Miss Christine Smith was appointed Superintendent of Nurses, and Miss E. Clark, Miss E. M. Davidson, Miss Gladys Thurston and Miss B. Sergeant constituted the original staff.

Public health nurses, selected because of their special qualifications, are in charge of the child hygiene stations conducted by the Department in the cities of Calgary, Edmonton, Medicine Hat and Drumheller. Two public health nurses are stationed in rural municipalities, giving full-time service to residents of these rural districts and small urban centres.

MUNICIPAL HOSPITALS

The first legislation dealing with municipal hospitals in Alberta was enacted in 1917. The Municipal Hospitals Act which was passed in that year served to stimulate the public interest, which was already manifest, in the question of municipal hospitalization. As this Act was found to be inadequate in some of its provisions, a new Act was passed in 1918 which repealed the Act of 1917 and strengthened and extended the previous legislation. This Act went into effect in May, 1918, and under it the first municipal hospital district established was Mannville. Vermilion and Drumheller Municipal Hospital Districts were established shortly afterwards, and the schemes of these three districts, on submission to the vote of the ratepayers, were ratified. Mannville, the first municipal hospital, was opened in October, 1919.

As the work of establishing municipal hospital districts went forward, it was found necessary to make provision for the varying conditions and new situations encountered, and amendments to the Act were submitted to succeeding sessions of the legislature, until in 1929 a new Municipal Hospitals Act consolidating previous legislation was passed.

Alberta was the second province in Canada to adopt legislation providing for the establishment of municipal hospitals and many new trails have been blazed in the development of municipal hospital schemes during the last sixteen years. In this field a municipal hospital system has been developed to meet the needs of the communities served.

There are now twenty-two municipal hospitals in the province providing modern hospital accommodation for 743 patients and serving more than one-third of the rural population. The hospitals vary in size from 12 beds to 96 beds. Some serve districts in which the population is almost entirely rural, with only one or two villages included in the municipal hospital district.

In other cases the larger towns and villages, together with the rural districts, constitute the municipal hospital district. The Red Deer municipal hospital district includes the city of Red Deer only. The Drumheller municipal hospital, situated in a mining centre, not only provides service for city and town ratepayers and supporters, but also serves the mining employees of the district, under a contract into which the board has entered with the miners' union.

The Municipal Hospitals Act is broad enough in its scope to provide for almost any situation existing or likely to arise in a district desiring to provide hospitalization for its residents under the municipal hospital plan.

The twenty-two municipal hospitals in the province have rendered a splendid service, more especially in providing modern facilities for the care of obstetrical, emergency and medical cases. Since the first municipal hospital was opened in 1919, 122,416 patients have been treated and 19,628 maternity patients admitted. The death rate (2.8 per thousand from 1927 to 1932, inclusive) compares favourably with the death rate in other hospitals.

The municipal hospital system in itself constitutes a form of health insurance. Hospital ratepayers and supporters contribute their hospital taxes and in return they, as well as the members of their families, become entitled to hospital service at the usual rate of one dollar a day.

The municipal hospitals have made local hospital service available to the people in many sections of the province who otherwise would have found it difficult, if not impossible, to obtain it.

APPROVED HOSPITALS

The regulations governing hospitals are enforced by the Inspector of Hospitals, who visits each approved hospital at least once during the year and on as many other occasions as his time will permit. This appointment was made in 1920. The regulations are quite comprehensive and are designed to ensure, as far as possible, that these institutions shall be so equipped and maintained as to provide a reasonably efficient type of service. Approved hospitals are entitled to a grant from the government of fifty cents per patient per day, whether public, semi-private, or private. There are 86 approved hospitals in the province with a total bed capacity of 4,043, including the sanatorium. The grant paid to these hospitals for the year 1933 amounted to the sum of $407,206.50. There are 6 hospital beds for every thousand of the population, and in the year 1933 treatment was provided for approximately 8.5 per cent of the population. In all deaths occurring within a period of thirty days after operation, hospitals are required to forward the charts to the Provincial Coroner for review. All material removed during operation must be referred to a competent pathologist, whose qualifications are approved by the Director of the Provincial Laboratory, for examination and report. In the case of the smaller hospitals all such material is required to be sent to the Provincial Laboratory. During a recent year 4,278 specimens were examined for approved hospitals by the Laboratory staff.

MEDICAL AND NURSING SERVICES IN UNORGANIZED DISTRICTS

Contract Doctors

Twenty-two physicians are under contract with the government to provide medical services to indigent residents and to perform the duties of health officers in unorganized districts. Under the contract, provision is made for medical treatment and for the services required in connection with the prevention and control of communicable diseases. The physicians are paid according to the extent of the territory which they serve. For major surgical cases the physician is paid an amount over and above what he receives under the contract, on the basis of the Workmen's Compensation Board schedule of fees.

District Physicians and District Nurses

In addition to the physicians under contract two physicians are employed by the Department on full-time service and are stationed in outlying districts remote from medical and hospital services. The residents of the districts served by these physicians are responsible for providing housing and transportation. In some of these districts settlement has taken place rapidly during recent years and the vast majority of the people are living under pioneer conditions and are, in most cases, quite unable to provide for medical services.

District Nurses

These are nurses who are stationed in frontier communities in which neither medical nor hospital facilities of any kind are available. Some of these nurses are located in districts sixty miles from the nearest doctor or hospital. A district nurse is often required in the course of her duties to assume the role of doctor, dispenser, bedside nurse and any other role the occasion may require. Her duties are, however, chiefly in maternity and first-aid work. Such district nursing calls for women of courage, skill and sound physique, as well as a high degree of initiative and devotion to service. At the present time there are twelve district nurses stationed in frontier communities which are, with three exceptions, located in the northern part of the province.

This type of public health nursing was established in Alberta in September, 1919, with the appointment of Miss Mary E. Conlin and Miss Genevieve de Turberville, to the Griffin Creek district.

The Travelling Clinic

The travelling clinic, for physical and dental examination, minor surgery and dentistry, is perhaps the most interesting work of a special nature undertaken by the Department. In isolated districts far from railway, hospital and medical service, the work of the district nurse often presented problems the solution of which taxed her ingenuity. Often in the course of her work the nurse discovered—as she still discovers—children in urgent need of medical, surgical or dental attention, but owing to the distance from a hospital and physician and the expense involved, it was rarely possible to obtain this attention. Seeking relief from such conditions, a plan of action was evolved. A number of such cases were assembled at central points and a doctor invited

to make a visit and perform, at a special rate, the operations found necessary. Trial of this plan was made by the Department in 1924 and repeated in 1925 and 1926. In the fall of 1926 the experiment of placing the clinic on a partly self-supporting basis was tried, and on the experience gained was based the policy of the clinic as it has operated since that time.

The clinic visits only places to which it is invited. The chief conditions are that at least twelve school districts shall combine for clinic purposes and that a local committee be formed to arrange the details in connection with the clinic. On the completion of the local organization a public health nurse makes a preliminary inspection of all school children in the district and recommends to the clinic all those who she considers should be examined by the physicians and dentists attached to the staff of the clinic.

The work of the clinic includes complete physical examinations, dental examinations, dental treatment, tonsillectomies and other minor operations, and vaccinations against smallpox. The education of parents and children is perhaps the most important phase of the work of the travelling clinic. Local physicians and dentists practising in districts visited by the clinic are invited to visit the clinic and to co-operate in the work. Many cases are referred by the clinic staff to local physicians and dentists for further treatment or advice.

Several districts have made satisfactory arrangements with local physicians for a service similar to that given by the travelling clinic. At the request of local physicians in one district the Department sent a public health nurse to make the preliminary school survey and the doctors arranged to do the operative work found necessary.

The clinic has operated continuously during the summer months since 1924, with the exception of 1932 and 1933, and the following is a brief summary of the work accomplished:

No. of clinics held	243
No. of children inspected by public health nurses preceding the clinic	36,000
No. of school districts covered	1,843
No. of physical examinations by physicians	21,709
Total no. of operations	6,359
No. of patients treated by dentists	6,708
No. of dental treatments	23,828

TUBERCULOSIS

On April 16, 1919, an agreement was signed by Sir James Lougheed, representing the Department of Soldiers' Civil Re-Establishment of the Government of Canada, and the Hon. A. G. MacKay, representing the Department of Public Health of the Government of Alberta, whereby each party consented to the payment of a sum of $200,000, making a sum of $400,000 to be used to acquire a site and to erect a sanatorium. It was further agreed that the sanatorium would be operated by the Dominion Government for a period of five years from the date of completion and furnishing, during which period provincial patients were to be admitted and cared for at an agreed

rate per day. The Dominion Government operated the institution from July, 1920, until July, 1925, at which time administration of the institution was transferred to the Department of Public Health. Dr. A. H. Baker, the present Medical Superintendent, was appointed on the opening of the sanatorium in 1920, becoming a member of the Provincial Department of Health staff when the sanatorium came under provincial control in 1925. The sanatorium provides accommodation for 210 patients. Municipalities are held responsible for the maintenance of their residents in the sanatorium. The per diem cost for the year 1933 was $2.21. The charge made for the maintenance of a patient who is a resident of a municipality is only $1.50 a day, the balance of the cost being assumed by the Department.

The first tuberculosis clinic was held in Drumheller in 1925. This service was extended somewhat in the following year. In the latter part of 1927 a follow-up service was organized and the clinic service was extended. In 1928 a tuberculosis clinic was established in Edmonton and also in Calgary.

A travelling diagnostic service has been provided by the sanatorium, the diagnostician visiting towns, villages and rural districts at stated intervals. The local physicians are notified in advance in order that they may refer cases for a specialist's opinion. Discharged sanatorium patients are invited to attend the clinic centres visited by the diagnostician.

THE VENEREAL DISEASES ACT

The first Venereal Diseases Prevention Act was passed in 1918. The Division of Social Hygiene was established in February, 1920, and has functioned since that time under Dr. Harold Orr as Director. During the same year diagnostic and treatment clinics were established in Edmonton, Calgary, Lethbridge and Medicine Hat, all of which have been in continuous operation since that time. Weekly clinics are also held at the provincial gaols at Fort Saskatchewan and Lethbridge.

Particular attention has been paid to the early diagnosis and treatment of neurosyphilis and cardiovascular syphilis, the two types of the disease which cause the greatest economic loss through incapacitation and early death. During a recent year the neurological examination of 500 syphilitic individuals was completed. The first trial of the malarial pyrexia treatment in Canada was made by this Department in May, 1924, and this treatment has been continuously employed since that time.

HEALTH EDUCATION

Health education was organized as an activity of the Department in 1928 with the appointment of Mr. F. T. Cook to take charge of this service. While in recent years, with the limited budget available, it has not been possible to meet the many demands for the expansion of this service, an earnest effort has been made to develop a service of real value. Approximately 35,000 people have been reached each year through lectures illustrated by motion pictures. Regular weekly radio talks have been given over station CKUA. A monthly bulletin has been issued by the Division of Communicable Diseases

of the Department, and copies have been forwarded to all local health authorities.

MENTAL INSTITUTIONS AND MENTAL HYGIENE

The mental institutions are administered by the Department of Health, transfer of this responsibility having been made in 1922.

The Provincial Mental Hospital at Ponoka was first opened in 1911 with Dr. D. T. Dawson as the first Medical Superintendent. He was succeeded in 1916 by Dr. E. H. Cooke. The hospital at present provides accommodation for 1,400 patients and is under the direction of Dr. G. A. Davidson, who succeeded Dr. Cooke in 1931.

Mentally defective children were first accommodated in a home in Edmonton South, but under the Department of Health this institution was closed and the patients transferred to Red Deer. The institution at Red Deer now accommodates 210 children and is known as the Provincial Training School. In the original plan new buildings erected at Oliver were to have been utilized as a Training School for Mental Defectives but in 1924, on the completion of the first units, the decision was made to use these buildings for the overflow of chronic male mental patients from Ponoka. Dr. D. L. Dick was the first Medical Superintendent at Oliver. In 1924 the administration of the Mental Diseases Act and the Mental Defectives Act was placed under the Department of Health.

Late in November, 1933, the Provincial Auxiliary Mental Hospital was established at Claresholm providing accommodation for one hundred women patients, with Dr. W. I. Valens as Medical Superintendent. The building utilized for this purpose was formerly the Provincial School of Agriculture. All the institutions, with the exception of the one at Claresholm, have been enlarged in recent years.

Mental Hygiene Clinics

Mental hygiene clinics were established by the Department in the cities of Calgary and Edmonton in the fall of 1929, in Lethbridge in 1930, and in Medicine Hat in 1933. In 1934 a series of surveys and clinics was initiated in more remote centres, beginning in the Peace River district. A psychiatrist, who is a member of the staff of one of the mental hospitals, is attached to each of these clinics. To these clinics problem cases are referred by private physicians, welfare organizations, police magistrates, school teachers and others. The establishment of these clinics marks an effort to apply the principle of prevention in the field of mental health. By utilizing the services of psychiatrists from our institutions the perspective of the psychiatrist is extended beyond the institution into the field in which there is such a great opportunity to carry forward a preventive program.

Dr. C. A. Baragar, who for ten years occupied the position of Medical Superintendent of the Brandon Mental Hospital, was appointed Commissioner of Mental Institutions and Director of Mental Health for the province in September, 1930. As the title of the position indicates, Dr. Baragar has been

given general supervision over and direction of all mental health activities carried on by the Department.

Drug Addicts

Under the Mental Diseases Act provision is made by which drug addicts may be admitted to a mental hospital for treatment. A number of such patients have been admitted as voluntary patients in recent years.

Sexual Sterilization Act

The Sexual Sterilization Act was assented to at the 1928 session of the Legislature. As Alberta was the first province in Canada and first in the British Empire to enact such legislation, it is of interest to review the essential provisions of this Act. For the purpose of the Act a board was created consisting of four members, two of whom are medical practitioners nominated by the Senate of the University of Alberta and the Council of the College of Physicians, respectively. The two remaining members are persons other than medical practitioners and are appointed by the Lieutenant-Governor-in-Council. This board is known as the Eugenics Board.

The following are the major clauses of the Act:

"When it is proposed to discharge any inmate of a mental hospital, the medical superintendent or other officer in charge thereof may cause such inmate to be examined by or in the presence of the board of examiners.

"If, upon such examination, the board is unanimously of the opirion that the patient might safely be discharged, if the danger of procreation with its attendant risk of multiplication of the evil of transmission of the disability to progeny were eliminated, the board may direct in writing such surgical operation for sexual sterilization of the inmate as may be specified in the written direction and shall appoint some competent surgeon to perform the operation.

"Such operation shall not be performed unless the inmate, in the opinion of the board, is capable of giving consent, has consented thereto; or where the board is of the opinion that the inmate is not capable of giving such consent, the husband or wife of the inmate, or the parent or guardian of the inmate, if he is unmarried, has consented thereto; or where the inmate has no husband, wife, parent or guardian resident in the province, the Minister has consented thereto.

"No surgeon duly directed to perform any such operation shall be liable to any civil action whatsoever by reason of the performance thereof.

"This Act shall have effect only in so far as the legislative authority of the Province extends."

Four meetings of the Eugenics Board are held each year, including sessions in Edmonton, at the Provincial Mental Hospital, Ponoka, at the Provincial Training School, Red Deer, and at Calgary. Ninety-one cases, of which 35 were male patients and 56 female, were presented to and passed by the Board in 1933, making a total of 288 cases that have been passed since the Board was constituted in 1929. Seventy-two operations, 22 male and 50 female, were performed during the year, bringing the total number of operations performed since this work was undertaken to 205, of which 48 are male and 157 female cases. This work has gone forward in a most satisfactory manner.

PROVISION OF MEDICAL SERVICES IN ALBERTA

Municipal Physicians

At the session of the Legislature in 1930 an amendment was introduced to the Municipal Districts Act by which municipal districts, or parts of municipal districts, are permitted to combine for the purpose of engaging municipal physicians and public health nurses.

Inasmuch as sixty per cent of the population of Alberta is rural and as physicians tend more and more to gravitate to centres of population, it has become increasingly difficult to retain competent physicians in the rural districts, and more particularly in districts which have suffered from repeated crop failures. While this scheme has not been developed in Alberta to anything like the extent to which it has in Saskatchewan, there is on every hand evidence of great public interest and concern in the problem of providing adequate and efficient medical and hospital service for the people.

DISTRICT HEALTH UNITS

At the session of the Legislature in 1929 an amendment to the Public Health Act was passed under which the Minister of Health is given authority to establish full-time health districts when requests are received from a sufficient number of municipal councils to warrant the establishment of such districts. Five rural municipalities, together with the included towns and villages, are considered the minimum number necessary to justify the establishment of a full-time health district.

In June, 1931, two such demonstration health districts were established, the Red Deer Full-Time Health District and the Okotoks-High River Full-Time Health District, the name of the latter being subsequently changed to the "Foothills Full-Time Health District". Each of these districts embraces five rural municipalities, the one 8 and the other 9 towns and villages. The Red Deer District embraces an area of approximately 1,700 square miles, and the Foothills District an area of approximately 1,900 square miles. The population included in the Red Deer District is approximately 21,000, and in the Foothills District 15,000, with a school population of 4,000 in the Red Deer District and 3,600 in the Foothills District. Dr. G. M. Little, D.P.H., was appointed Medical Officer of Health for the Red Deer District and Dr. W. G. Saunders, D.P.H., for the Foothills District.

At the expiration of the three-year trial period, all the territory in both units, with the exception of one town, agreed to continue the service.

THE ALBERTA HEALTH INSURANCE ACT

At the session of the Legislature in 1932 the following resolution was unanimously adopted:

"WHEREAS arising out of a resolution adopted by this Legislature, 1929, information has been collected and presented on the subject of State Medicine and Health Insurance; now, therefore, be it

"RESOLVED that this Government is hereby instructed to appoint a commission consisting of at least five members of this Legislature for the purpose of:

"(*a*) Considering and making recommendations to the next session as to the best method of making adequate medical and health services available to all the people of Alberta;

"(*b*) Reporting as to the financial arrangements which will be required on an actuarial basis to ensure the same."

The final report of this Commission was presented at the 1934 session of the Provincial Legislature and was adopted unanimously.

At the last session of the Legislature the Alberta Health Insurance Bill was introduced and assented to on April 23, 1935. It is proposed that one demonstration medical district be organized during the present year in order that experience may be gained in a representative district before any effort is made to apply the scheme over the province as a whole.

LIMITATION OF USE OF "SPECIALIST" BY THE MEDICAL PROFESSION

Since 1926 legislation has been in effect in Alberta governing the use of the term "specialist" by members of the medical and dental professions. This legislation provides that no person shall advertise or hold himself out to the public as a specialist or as being specially qualified in any branch, or any class or system of practice without having received from the Registrar of the University of Alberta a certificate of having complied with such conditions as to qualifications or fitness as may be prescribed by the Senate of the University. The conditions may be based either upon the possession of certain diplomas or other professional qualifications, or upon compliance with prescribed tests by way of examination or otherwise.

Since this legislation was enacted, eighty "specialist" diplomas have been granted to physicians and surgeons.

This brief review of the history of the Provincial Department of Public Health serves to record the major developments which have take place during the thirty years of the province's history. A public health administration has evolved to deal with the varied health problems found in a new province, in which, while development has been fairly rapid in many sections, pioneer conditions are still to be found in many others.

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ADMINISTRATIVE AIDS TO RURAL HEALTH SERVICE

ONE welcomes the opportunity of commenting on the article in this issue by Dr. C. L. Scamman, Director of the Division of Public Health, The Commonwealth Fund, New York. Rural health service is of paramount importance to Canada. Too frequently, if one gives the matter any thought, one is inclined to judge the effectiveness of health administration in one's own province by the achievement of this town or that city, and too little consideration is given to assessing the problems of rural areas and the effectiveness of the means designed for their solution. Typhoid fever exemplifies the necessity for giving greater consideration to rural communities. The impression has been gained that typhoid is a vanishing disease and the decline in the death rate is frequently quoted in support of this contention. It is true that the death rate has fallen both in the rural and in the urban population, but the fall in the rural areas has been due not so much to the improvement of sanitation in these communities but to the elimination of the sources of the infection in the urban centres. The average number of deaths in Ontario is 75, indicating approximately 750 cases, which is a problem of no little significance. But when the deaths are applied to the total population of the province and not properly distributed to the actual areas supplying them, the significance of the problem is lost. The United States and Canada have much in common in the matter of rural health and there is nothing in Dr. Scamman's paper that is not applicable to our own needs. The growth of the full-time county health unit scheme in the United States is phenomenal—a forty-fold increase in the number of such units established within twenty years. Yet twenty years is an adequate period for development on a sound experimental basis and for an appraisal of the effectiveness of the scheme. A competent appraisal leaves no doubt that the county health unit is a most efficient way to serve the rural areas.

Three administrative aids are emphasized as tools for the improvement of rural health work; namely, the appraisal form, the field technical service, and the epidemiological unit. Each is clearly and forcefully elaborated and the application of these aids is fully described. Without such administrative aids there would be no health service worthy of the name. No one could more effectively convince health departments of the usefulness of a full-time rural health service than Dr. Scamman.

REPORTS

from the

Twenty-fourth Annual Meeting

Held in Toronto June 3, 4 and 5, 1935

Part III

SECOND ANNUAL REPORT OF THE COMMITTEE ON CERTIFICATION OF CAUSES OF DEATH

(Vital Statistics Section)

THE first report of this committee embodied the results of its investigations on the form of the certificate of registration of death. These were presented to the Vital Statistics Section at the annual meeting in Montreal in June, 1934. Following a conference of the Dominion Bureau of Statistics with representatives of the provincial registrars and medical officers of health, the recommended form of the certificate was accepted by all provinces with minor changes and a resolution endorsing the recommendations of this committee as amended was passed at the final general session of the convention. The minor changes in the committee's recommendations included (*a*) alteration of the question "Was deceased pregnant at the time of or one month prior to death?" to read "If a woman, was the death associated with pregnancy?", and (*b*) addition of the question "Specify whether injury occurred in industry, home or in public place."

This, the second annual report of the Committee on Certification of Causes of Death, is presented in seven parts:

I. The New Death Certificate—Comment on the Final Form.
II. The Introduction of the New Certificate.
III. Preparation of the New Reference Handbook on Death Certification.
IV. The Next Revision of the International List of Causes of Death.
V. The Confidential Death Certificate.
VI. Plans to Advance the Teaching of Vital Statistics.
VII. Certification of Causes of Stillbirth—and Related Problems.

Part I. The New Death Certificate—Comment on the Final Form

The changes incorporated in the new certificate of registration of death are discussed under two general heads, (*a*) civil and (*b*) medical questions, as follows:

(*a*) *Civil Information*

The committee feels that the changes made in the questions on the civil side of the death certificate will provide additional information of value to the state and to the medical profession, and will assist in improving the reliability of mortality records as an index of the differential incidence of disease. These changes are briefly:

Place of Death.—On the new form a separate line is no longer provided for the name of

hospital or institution (if death occurred in such). The space for street and number is to be used for this purpose.

Length of Stay.—Previous confusion in regard to the question, length of stay "(*a*) at place of death", is avoided by the new wording, "Length of stay in city, town or township, where death occurred".

Residence of Deceased.—To ensure a clear and precise statement of residence, the footnote "Usual place of abode, post office address for residents in rural parts not sufficient" has been provided.

Nationality (citizenship).—This question is inserted before "Racial Origin" to assist in clarifying the meaning of "Racial Origin" and to remove any resentment on the part of those who might object to the latter question.

Occupation of Deceased.—Two questions have been added which will ultimately prove of value to medical statistics, *e.g.*, in the case of diseases which might be of occupational origin. These questions are, "Date deceased last worked at this occupation" and "Total years spent in this occupation."

Other Changes.—A new question, "If married, give name of wife or husband of deceased" has been added, and "name of informant" has been changed to "signature of informant." In New Brunswick this remains "name of informant."

(*b*) *Medical Certificate of Death*

The outstanding changes in the new certificate were those effected in the medical portion of the form and particularly in the form of the questions relating to cause of death. The changes are briefly:

The morbid conditions relating to death are now divided on the certificate into two sections. In section I are those related to the "immediate cause" of death, and in section II those not causally related thereto.

The new form which has been adopted for use is clear and logical and embodies all the considerations which experience has shown to be necessary to the intelligent selection of a single cause for tabulation in a clear and logical manner. It establishes beyond doubt (if it is not misused) the two relationships between causes which are of value in vital statistical practice, namely, (1) relationship of causation and (2) relationship of importance. Unlike the old form, therefore, a statement of duration, which can so infrequently be given accurately by the attending physician, is unnecessary, though Saskatchewan has added columns for it. It also effectively separates contributory causes such as complications (*e.g.*, gangrene in diabetes) from independent contributory causes such, for example, as chronic nephritis.

When two or more independent morbid conditions are present, the new certificate places entirely on the physician the choice of the major cause—major in the sense that he feels it to be the one deserving tabulation as cause of death in the records.

(*c*) *Ancillary Medical Questions*

Three new supplementary medical questions have been introduced.

Pregnancy and Childbirth.—A new question, "If a woman, was the death associated with pregnancy?", has been added. In Quebec this question reads, "If a woman, was there a puerperal condition?" This question serves to supplement the preceding medical statements on cause of death or, where the death is not certified to a puerperal cause but pregnancy or parturition preceded death, it secures the opinion of the doctor as to any possible association.

Surgical Operations.—The request to "state findings" has been added and will be of practical value in classification procedures.

Violent and Accidental Deaths.—Specific questions are now provided to elicit whether the death was due to accident, suicide, or homicide, and to determine the manner of occurrence and nature of injury. The data here again supplement those given in statements of cause of death and replace the footnote on the old form referring to such deaths.

NOTE: No reference to stillbirths is now made on the form, as formerly was the case on the Ontario and Manitoba forms ("In the case of stillbirths, write 'born dead' "), except in Saskatchewan where the definition of stillbirth has been added to the explanatory notes on the back of the form.

(*d*) *Explanatory Notes*

Detailed explanatory notes on both civil and medical portions of the new form are included on the back of the certificate (except in Quebec). Typical examples are given to illustrate the use of the medical certificate.

PART II. THE INTRODUCTION OF THE NEW CERTIFICATE

Following the general approval of the form of the new certificate of registration of death in June, 1934, this committee, with the co-operation of the Department of Epidemiology and Biometrics, School of Hygiene, University of Toronto, at the invitation of Mr. Macphail, prepared for the consideration of the Dominion Bureau of Statistics the "Instructions to Physicians Entering Statement of Cause of Death", including a series of examples, for incorporation on the back of the new certificate. Certain suggestions were also made by the committee regarding the typography of the form. A format embodying all the suggestions made and approved by representatives of all official bodies concerned was then submitted by the Dominion Bureau of Statistics to the registration officials of each province for final consideration and approval.

The Dominion Bureau then planned to acquaint the medical profession with the new certificate. To this end an explanatory letter and a copy of the new form were sent to practising physicians in the provinces which made request. Mr. W. R. Tracey, Chief of Vital Statistics, Dominion Bureau of Statistics, Ottawa, also prepared a paper on "The New Canadian Death Certificate". To assist in this formal presentation of the new certificate, a second paper, "The Physician and the New Death Certificate", was prepared for the committee by the chairman and the secretary, and published along with Mr. Tracey's in the April issues of the Journal of the Canadian Medical Association and the Canadian Public Health Journal.

In these two papers the steps leading up to the revision of the certificate of registration of death are outlined, and the changes which were made are discussed. The second paper is devoted primarily to a discussion of the questions relating to cause of death and practical points in the use of the new form from the point of view of the practising physician. Reprints of these articles have been made available to the Provincial Departments of Health, and New Brunswick and British Columbia have already secured copies at

nominal cost for distribution to the medical practitioners in their respective areas.

In addition a short article entitled "Practical Points in the Use of the New Death Certificate" has been prepared for the committee which it is planned to publish shortly in the Bulletin of the Academy of Medicine, Toronto, the Manitoba Medical Association Review and the Nova Scotia Medical Bulletin.

PART III. PREPARATION OF THE NEW REFERENCE HANDBOOK OF DEATH CERTIFICATION

With the introduction of the new standard Canadian death certificate, the Dominion Bureau of Statistics contemplates a complete revision of the "Physician's Pocket Reference to the International List of Causes of Death". Upon the invitation of Mr. W. R. Tracey, Chief of Vital Statistics, Ottawa, the committee undertook a careful study of the text and form of such a new manual, with a view to assisting the Bureau and making recommendations.

The opinions and suggestions of the heads of the various Departments of Hygiene in Canadian universities with regard to the purposes and value of such a handbook were ascertained. Two broad purposes were defined: (1) for use as a source of information and as a guide in death certification for practising physicians and others throughout Canada, and (2) as an aid in the teaching of vital statistics to medical students. With these facts in mind, the material in the present booklet was revised and supplemented and a draft for a new handbook prepared.

The text of this draft comprises a preface, four sections, and an appendix. In section I a brief review of the development of Canadian vital statistics is given. Section II contains an outline of the essential features in connection with death registration. This section includes a consideration of both medical and civil sections of the new death certificate with practical points on the new procedure in certification of death. In section III is included the Canadian definition of stillbirth and the broad classification of causes of stillbirths drafted by the International Institute of Statistics. The major portion of the proposed book, section IV, is devoted to the International List of Causes of Death, including (*a*) a brief historical note, (*b*) a discussion on "The Physician and the International List of Causes of Death", (*c*) an explanation of the general arrangement of titles in the list, and (*d*) presentation of the detailed list with companion notes. These companion notes are included under both main group titles and subtitles and are the important feature of the proposed revision. These notes emphasize the essential facts necessary in certifying deaths to diseases in certain groups. The importance of avoiding the use of various undesirable or vague terms and procedures in certifying deaths to certain causes is indicated throughout the whole list. The appendix includes a résumé of the Model Bill and the principles of registration and a note on the value of registration.

In drawing this schedule, free use was made of information from English sources and of the material contained in the old Pocket Reference, but con-

siderable revision and alteration, together with the introduction of new material, have effected a complete change in form. The new method of presenting the detailed list with companion notes which is proposed makes the list more informative and of more practical value to the physician as a reference and renders the presentation of a list of undesirable terms no longer necessary.

The committee wishes to express its appreciation to Dr. Coats, Dominion Statistician, for making possible the revision of this document which will undoubtedly be of great value to practising physicians and medical students throughout Canada.

PART IV. THE NEXT REVISION OF THE INTERNATIONAL LIST OF CAUSES OF DEATH

This committee feels that the subject of revision of the nomenclature of causes of death is an important phase of its duties and that the Section of Vital Statistics through this committee could be of much service to the Dominion Bureau of Statistics by undertaking a study of the question of revision. In view of the proximity of the decennial conference (1938), the committee recommends that immediate steps be taken to provide for the discussion of defects in the present International List and to elaborate a proposed statement of revision thereof. Practising physicians and teachers in hygiene, as well as those specifically concerned with the collection, classification, and tabulation of mortality records, should be approached in order to ascertain a broad opinion on the essential remedial defects which exist at present in view of developments since the last revision in 1929 and to define suggested changes in the titles to be recommended at the next revision. In view of the extent of the task involved, the committee recommends that it be given power to appoint a sub-committee to deal with this question and to co-operate with and assist the Dominion Bureau of Statistics, Ottawa, in every way possible.

The Committee on Accuracy of Certified Causes of Death of the American Public Health Association this year extended an invitation to the Canadian Public Health Association through the Section of Vital Statistics to send a representative to the conference in connection with revision of the International List of Causes of Death. With the approval of the Dominion Bureau, Mr. W. R. Tracey, Chief of the division of Vital Statistics, Ottawa, kindly consented to serve on this committee and is attending its various meetings. The committee desires to express its hearty appreciation of this generous invitation.

PART V. THE CONFIDENTIAL DEATH CERTIFICATE

It is a well known fact, ably demonstrated by the work of the Committee on Accuracy of Certified Causes of Death of the American Public Health Association, that statistics on causes of death cannot be accepted without reservation. The very fact that it is found necessary to employ rules of choice in selecting causes of death for tabulation where more than one cause is entered on the death certificate and that deaths are classed in a limited number of rubrics merely as a convenience, supports this statement.

Improvement in the accuracy of certified causes is highly desirable and was the fundamental reason for the recent revision of the national death certificate. In general four factors are involved in securing such improvement:

(*a*) Clarification of the procedure of certification and further revision of the death certificate if found necessary.
(*b*) Further revision in the International List of Causes of Death.
(*c*) Education of the medical profession and medical students in vital statistics, particularly in the principles and practice of certification of causes of death.
(*d*) Alteration in the mode of transmission of the death certificate from physician to statistical bureau or health department.

Earlier sections of this report have dealt with the first three of these factors in improvement and it will be recalled that brief reference was made to the last item—confidential certification—in the committee's report last year. As indicated in that report, the Committee reviewed the methods adopted in Switzerland, Holland, Belgium, France, and Germany to provide "confidential" certification, and made a preliminary study of possible plans for confidential procedures applicable to Canada, one of which seemed to have reasonable merit.

The changes which have been brought about in recent years in the method of certification in England are of particular interest. Prior to the revision of the Births and Deaths Registration Act in 1926, the practitioner was requested to give the certificate to the person qualified to act as informant for the purpose of registration. The new Act requires the practitioner to deliver the certificate "forthwith to the registrar direct" and he is provided by the registrar of births and deaths with a supply of franked envelopes for the purpose of posting the certificates to the registrar. The procedure in England now, on signing a certificate of cause of death, is to give written notice of the signing to the relative or other person liable to act as informant of the death for registration purposes. The form contains a tear-off portion to be used by the practitioner in giving such notice. This tear-off portion bears the same serial number as that on the certificate itself, and sets forth the duties of the informant thus:

"The informant must deliver this notice to the registrar of births and deaths of the Sub-District in which the death took place, bearing in mind that the death cannot be registered until the medical certificate has reached the registrar.

"The informant must be prepared to state accurately (1) the date and place of death, and the place of deceased's usual residence; (2) the full names and surname; (3) the correct age; (4) the occupation."

It would seem that this procedure virtually accomplishes a practical scheme of confidential death certification. The introduction of such a new system of course involves many important considerations. It is essential to ascertain the attitude of medical practitioners toward such a system, as well as to see if physicians can be expected to state the true cause of death if any part of such record reflects upon the deceased. It is also desirable to determine if the present method of reporting causes of death is inaccurate enough to make it worth while.

In view of the procedure adopted in England, the committee recommends that a careful study be made of this question in order to determine the possible advantages which might follow the introduction of a system of confidential certification of cause of death in Canada.

PART VI. PLANS TO ADVANCE THE TEACHING OF VITAL STATISTICS

At the close of the conference last year, the following resolution was passed by the Association:

> "That this Association, realizing that it is of very great importance that medical students and medical practitioners be given special instructions in the principles governing death certification and the value of accurate statements on the medical certificate of death, request the co-operation of the Faculties of Medicine of our universities and the Canadian and Provincial Medical Associations."

During the present year the committee has made definite progress

toward the plan to educate the medical profession and medical students in the use of the new death certificate and in the general procedure of death certification. The work of the committee in this direction has been outlined in previous sections. The first step was the publication of two articles, "The Physician and the New Canadian Death Certificate" and "Practical Points in the Use of the New Death Certificate." The second step was the elaboration of a proposed revision of the "Physician's Handbook on Certification of Cause of Death" which was so arranged as to be a desirable instrument in the teaching of medical students, as well as a guide to medical practitioners in certifying deaths.

The educational side of the work of this committee has just begun and careful consideration is to be given to the advancement of the teaching of vital statistics in medical schools, with particular reference to death registration and certification. To this end the proposed handbook on death certification would be of great value. The committee feels, however, that provision for definite instruction which would include practical as well as didactic work, is extremely desirable. Practical teaching in the use of the medical certificate is believed by the committee to be of first importance and a fundamental step toward securing the co-operation of physicians in the future in securing accurate statistics of cause of death and making the new certificate reflect its full value. The committee tentatively suggest that such work include supplying each student with a group of case histories for each of which he is asked to fill in the medical statement of cause of death. Such an exercise, following a lecture on the essential features of death registration and certification, would serve to fix the important practical points upon the mind of the student.

PART VII. CERTIFICATION OF CAUSES OF STILLBIRTH—AND RELATED PROBLEMS

In 1930 Dr. E. Gagnon presented to the Section of Vital Statistics an admirable and inclusive paper on the subject "What is a Stillbirth?". As a result of this paper a special committee was formed and entrusted with the definition of "stillbirth" and "live birth" for statistical purposes, and with the investigation of the probable value and nature of a special form for the reporting of stillbirths. At the annual meeting in 1931, this committee recommended the statistical definition of stillbirth which is now uniform throughout Canada. In 1932 the Province of Quebec began the use of a separate stillbirth form and the form is said to be entirely satisfactory.

There remain three broad and important questions for consideration in connection with stillbirths and foetal deaths which come within the scope of this committee's duties.

(1) *Investigation of the desirability of introducing a standard Canadian form for stillbirth reporting and certification on a national scale.* Considerable experimental work and study will be required in order to ascertain the essential facts desired on such a certificate if adopted, and to elaborate a form practicable for national use. This investigation requires the co-operation of provincial

registrars, provincial medical officers of health and the Dominion Bureau of Statistics.

(2) *Elaboration of a suitable working nomenclature for the classification of causes of stillbirths.* This question is a major one in public health and since no quite satisfactory list of causes of foetal death exists as yet, the committee feels that steps should be taken to initiate a detailed clinical, pathological and statistical study in order to consolidate the knowledge which we already have and to devise a workable national list for the classification of causes of foetal death.

(3) *Careful consideration of the desirability of replacing "stillbirth" registration and certification by "foetal death" registration.* There is little doubt that the word "stillbirth" even as now defined is confusing to practitioners. For example, the foetus may not be expelled till the seventh month, yet death may have occurred in utero and the foetus be expelled in a macerated state. It is evident that there is wide variation in the minds of practising physicians as to what constitutes a stillbirth and the committee feels that the whole difficulty could be avoided by not using the term at all. This is especially so unless it is possible to secure an accurate statement not of the "period of gestation at birth" of such foetus, but of the "period of gestation at death" as well as the length of such foetus at birth.

The committee recommends that it be empowered to appoint a subcommittee to undertake the investigations and study outlined.

DR. R. D. DEFRIES, *Chairman.* DR. A. H. SELLERS, *Secretary.*

SECOND REPORT OF THE COMMITTEE ON THE ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH

AT the annual meeting in Montreal last year the committee was reappointed and instructed to continue its endeavours to improve the form of annual health reports. The committee consisted of Dr. J. W. McIntosh, Vancouver; Dr. R. B. Jenkins, Edmonton; Dr. W. H. Hill, Calgary; Dr. G. M. Little, Red Deer, Alberta; Dr. Arthur Wilson, Saskatoon; Dr. A. J. Douglas, Winnipeg; Dr. E. S. Bolton, Brandon; Dr. J. H. White, Fort William; Dr. F. Adams, Windsor; Dr. T. A. Lomer, Ottawa; Dr. Alphonse Lessard, Quebec; Dr. S. Boucher, Montreal; Dr. C. W. MacMillan, Saint John; Dr. R. D. Defries, Toronto; Dr. D. V. Currey, St. Catharines, Ontario, chairman, and Miss Mary Power, Toronto, secretary.

Essential parts of the report include the survey statement by the health officer of the work of the department, the reports of the various divisions of the department and publication of the expenditures and budget of the department. No part of the report is more important than the statement by the medical officer of health. It is not possible, however, for him to make an adequate statement without having before him the report of vital statistics and the reports of the various divisions of his department.

Your committee this year has devoted itself primarily to the consideration of the best form of presentation of vital statistics, bearing in mind the primary purpose, namely, of making it possible for the health officer to see clearly the results and the problems, desiring to have these data presented in uniform tables which would permit of ready comparison of the experience of other municipalities in Canada.

May we be allowed to refer to the committee's report of last year to remind you of what we believe the function of an ideal annual report of the medical officer of health to be, namely:

(1) To indicate what has been accomplished during the year.
(2) To direct attention to urgent health work which needs to be done, indicating how this may be accomplished by extensions of services, passing of regulations, etc.
(3) To show how the money appropriated has been expended in advancing the health of the community.
(4) The preparation of the report with a definite objective of fostering an intelligent and active interest on the part of the public through the publication of the report in the press and its distribution to interested citizens.

Letters were sent to 68 cities in Canada with populations ranging from 10,000 to 818,000, and as in the previous report the cities were divided into two classes. Group A, cities with a population of 75,000 and over, comprised 9 cities from which 8 replies were received. Of these two have a mimeographed report and the others have printed reports. Of the 59 cities in group B, 31 replies were received. Of these 7 have a printed report, 11 distribute mimeographed reports, and 13 undertake no distribution, using only typewritten copies. There is an improvement in this group over last year when only 26 replies were received, 2 of which had their reports printed, 7 mimeographed, and 17 typewritten. Of those not replying, 7 cities in group B were included in the county health report for the area and should therefore be deleted from the total number of municipalities.

VITAL STATISTICS TABLES

Careful consideration was given to the suggestions regarding the forms of these tables as presented in last year's report. Suitable changes have been made following correspondence with a number of municipal medical officers and with the Department of Epidemiology and Biometrics, School of Hygiene, University of Toronto. It is gratifying that the medical officers of health of 25 cities returned the draft forms for the statistical report with the suggesed tables more or less complete. A number of officers reported that the desired information was not available this year because their records were not kept in a manner which would permit of obtaining these data. It was most encouraging that the forms were received with general approval and a number stated that they would be pleased to use them in their annual reports for next year.

In submitting these forms your committee realised that many medical officers of health serving in part-time capacity have very limited facilities for the conduct of any statistical work. It will be found, however, that the forms are simple and will repay the health officer many times for his effort in providing him with the absolutely essential information necessary for any program of preventive medicine.

FORM OF THE HEALTH BUDGET

The valuable preliminary study which has been made by Dr. R. B. Jenkins, Medical Officer of Health, Edmonton, Alberta, has formed the basis of the study of the Committee. This report was published in the CANADIAN PUBLIC HEALTH JOURNAL (*25*: 120, 1934) and included budgets of 16 cities. As Dr. Jenkins pointed out, the first step in any improvement in the form of health budgets is an agreement as to the activities which may properly be considered as health activities. The inclusion, for example, of all hospital expenditures or relief medical services, results in a per capita expenditure for health services for such a municipality greatly in excess of the per capita expenditure in another city of similar population.

It is the hope of the committee that, through the co-operation of the medical officers of health of the various cities, a plan of health budget may be adopted which will clearly define the activities which may properly be considered the responsibility of the department of health. From such a budget it will be possible for the medical officer of health of one municipality to compare expenditures with those of another municipality of similar size.

RECOMMENDATIONS

Your committee would recommend:

(1) That all medical officers of health be requested to consider the suggested statistical tables and to co-operate actively with the committee in developing the best form for the presentation of vital statisics.

(2) That in publishing the vital statistics the data for each city include non-residents.

(3) That the annual report of the medical officer of health be for the calendar year.

To implement these recommendations it is urged that the Association join with the Section in taking such steps as may bring these matters before the provincial and municipal medical officers of health throughout Canada.

MISS MARY POWER, *Secretary.* D. V. CURREY, *Chairman.*

APPENDIX

VITAL STATISTICS TABLES

POPULATION: As shown by the assessors' returns (1934), the population is.....

BIRTHS: According to the records of the Division Registrar, there were during the year:
Live births.....Rate per 1,000 population.....
Stillbirths.....Rate per 1,000 live births.....
Included in the above were.....non-resident births and.....non-resident stillbirths.

TABLE I

LIVE BIRTHS, 1930-1934

Year	Population	No. including non-residents	Rate per 1,000 population	No. residents only	Rate per 1,000 population
1934					
1933					
1932					
1931					
1930					

TABLE II

STILLBIRTHS, 1930-1934

Year	Population	No. including non-residents	Rate per 1,000 population	No. residents only	Rate per 1,000 population
1934					
1933					
1932					
1931					
1930					

MARRIAGES: Number performed 1934..... Rate per 1,000 population.....

DEATHS: From all causes a total of.....deaths was registered, being a rate of.....per 1,000 population, including.....deaths of non-residents. The rate for this year (deaths of non-residents included) compares { favourably / unfavourably } with previous years as follows:

TABLE III

MORTALITY RATE (EXCLUSIVE OF STILLBIRTHS), 1930-1934

Year	No. of deaths, including non-residents	Rate per 1,000 population	No. residents only	Rate per 1,000 population
1934				
1933				
1932				
1931				
1930				

CAUSES OF DEATH: In accordance with the recommended practice the causes of death are presented using the Abridged International List as follows:

ABRIDGED INTERNATIONAL LIST OF CAUSES OF DEATH
REVISION OF 1929

Abridged List No.	Disease	No. of deaths including non-residents	No., residents only
1.	Typhoid and paratyphoid fever		
3.	Small-pox		
4.	Measles		
5.	Scarlet fever		
6.	Whooping cough		
7.	Diphtheria		
8.	Influenza		
10.	Tuberculosis of the respiratory system		
11.	Other forms of tuberculosis		
12.	Syphilis		
14.	Other infectious and parasitic diseases		
15.	Cancer and other malignant tumours		
16.	Tumours, non-malignant tumours		
17.	Chronic rheumatism and gout		
18.	Diabetes mellitus		
19.	Alcoholism (acute and chronic)		
20.	Other general diseases and chronic poisonings		
21.	Progressive locomotor ataxia and general paralysis of the insane		
22.	Cerebral haemorrhage, cerebral embolism and thrombosis		
23.	Other diseases of the nervous system and of the organs of special sense		
24.	Diseases of the heart		
25.	Other diseases of the circulatory system		
26.	Bronchitis		
27.	Pneumonias		
28.	Other diseases of the respiratory system (tuberculosis excepted)		
29.	Diarrhoea and enteritis		
30.	Appendicitis		
31.	Diseases of the liver and biliary passages		
32.	Other diseases of the digestive system		
33.	Nephritis		
34.	Other diseases of the genito-urinary system		
35.	Puerperal septicaemia		
36.	Other diseases of pregnancy, childbirth and the puerperal state		
37.	Diseases of the skin, bones and organs of locomotion		
38.	Congenital debility and malformations, premature birth, etc.		
39.	Senility		
40.	Suicide		
41.	Homicide		
42.	Violent or accidental deaths (suicide and homicide excepted)		
43.	Cause of death not specified or ill-defined		

The chief causes of death during the previous years were as follows:

TABLE IV

CAUSES OF DEATH (TOTAL NUMBER INCLUDING NON-RESIDENTS), 1932, 1933, 1934

Abridged Int. List No.	Disease	No. of Deaths			Rate per 100,000		
		1934	1933	1932	1934	1933	1932
22, 24, 25, 33	Diseases of heart, arteries and kidneys, including apoplexy.....						
15	Cancer (all forms).....						
27	Pneumonia.....						
42	Violent and accidental deaths....						
10, 11	Tuberculosis (all forms).....						
18	Diabetes.....						
8	Influenza.....						
1, 2, 3, 4, 5, 6, 7	Communicable diseases (other than tuberculosis, pneumonia and influenza).....						
	All other causes.....						

INFANT MORTALITY: The infant mortality rate for this municipality, including deaths of non-residents, is presented in the following table for this year and for the preceding four years:

TABLE V

DEATHS OF INFANTS IN FIRST YEAR OF LIFE, 1930-1934
(Total number including non-residents)

	1934	1933	1932	1931	1930
Number of infant deaths.....					
Rate per 1,000 live births.....					

Number of deaths of non-residents included in the above: 1934....., 1933..... 1932....., 1931..... 1930.....

From the following table, the part played by certain causes is at once evident:

TABLE VI

INFANT MORTALITY BY CAUSE OF DEATH, 1930-1934
(Total number including non-residents)

Cause of Death	1934 Number	1933 Number	1932 Number	1931 Number	1930 Number
1. Diarrhoea and enteritis					
2. Pneumonia and influenza					
3. Prematurity					
4. Congenital debility, malformations					
5. Injuries at birth					
6. Acute communicable diseases (whooping cough, diphtheria, measles, scarlet fever, etc.)					
7. Other causes					

Of the.....infant deaths registered this year,.....occurred within the first 24 hours;.....within the first week; and.....died being under one month of age, representing.....per cent of the total number.

MATERNAL DEATHS: The number of deaths of mothers from puerperal causes was ..... Including.....deaths of non-residents, the rate for the municipality is..... per 1,000 living births.

TABLE VII

MATERNAL MORTALITY (INCLUDING NON-RESIDENTS), 1930-1934

Year	Live births	Number of maternal deaths	Rate per 1,000 living births
1934			
1933			
1932			
1931			
1930			

Number of deaths of non-residents included in the above: 1934....., 1933....., 1932....., 1931....., 1930.....

The chief causes of maternal deaths during the year 1934 according to residence are presented in the following table:

TABLE VIII

Cause of Death	Number	
	Including non-residents	Residents only
Abortions (septic and non-septic)		
Puerperal toxaemias		
Puerperal sepsis		
Other puerperal causes		

COMMUNICABLE DISEASES:

TABLE IX

REPORTED CASES AND DEATHS FROM COMMUNICABLE DISEASES
(T = Total, including non-residents; N-R = Non-resident)

Disease	Age-groups												Total including non-residents	
	0-4 years				5-14 years				15 and over					
	Cases		Deaths		Cases		Deaths		Cases		Deaths		Cases	Deaths
	T	N-R	T	N-R	T	N-R	T	N-R	T	N-R	T	N-R		
Cer. spin. meningitis...														
Chickenpox.....														
Diphtheria.....														
German measles.....														
Influenza.....														
Measles.....														
Mumps.....														
Paratyphoid fever.....														
Pneumonia (all forms).														
Poliomyelitis.....														
Puerp. septicaemia....														
Scarlet fever.....														
Septic sore throat.....														
Smallpox.....														
Tuberculosis (all forms)														
Typhoid fever.....														
Undulant fever.....														
Whooping cough.....														

IMMUNIZATION REPORT:

Diphtheria toxoid—Quantity distributed by your local health department during 1934 ..... Number receiving 3 doses in clinics or given by the department.....

Smallpox vaccine—Total number of capillary tubes distributed by your local health department..... Number vaccinated by staff or clinics of the department .....

Scarlet fever toxin—Quantity distributed by your local health department during 1934 ..... Number receiving 5 doses in clinics or given by the department.....

TABLE X

REPORTED CASES AND DEATHS FROM TUBERCULOSIS, 1930-1934

Year	Cases	Number of deaths in city	Number of deaths in outside sanatoria	Total deaths	Rate per 100,000
1934					
1933					
1932					
1931					
1930					

TABLE XI

REPORTED CASES AND DEATHS FROM SCARLET FEVER, DIPHTHERIA, WHOOPING COUGH AND MEASLES, 1932-1934
(Including non-residents)

Disease	Cases			Deaths			Mort. Rate per 100,000		
	1934	1933	1932	1934	1933	1932	1934	1933	1932
Scarlet fever									
Diphtheria									
Whooping cough									
Measles									

Included in the above for *1934* were.....*deaths* from scarlet fever of non-residents; .....deaths from diphtheria;.....deaths from whooping cough;..... deaths from measles.

TABLE XII

REPORTED CASES AND DEATHS FROM TYPHOID FEVER, 1930-1934
(Including non-residents)

Year	Cases	Deaths	Mort. Rate per 100,000
1934			
1933			
1932			
1931			
1930			

Number of deaths of non-residents included in the above: 1934....., 1933.....,1932.....,1931.....,1930.....

CHILD HYGIENE

HYPEROPIA AND SCHOOL EXAMINATION

G. M. LITTLE, M.D., D.P.H.
Medical Officer of Health, Red Deer Full-Time Health District
Red Deer, Alberta

HOW often we have seen the nurse stand a child up at a given distance before a vision chart, instruct him to read down as far as possible with each eye, and then offer an opinion as to whether or not he or she has normal vision! When this bit of routine completes the examination, rather than being considered only a part of our investigation, we are likely to miss many of these children whose vision is causing trouble.

Many children, through diffidence or failure to recognize the importance of symptoms they have noticed, will not volunteer information regarding their personal disabilities; but the simple question "Do your eyes ever bother you?" will frequently elicit a story of trouble which the vision chart has failed to signify—a story of headaches, watering eyes, or blurred letters after using the eyes for close work, and other local and general symptoms of eye strain. Frequently I have found even the parents unaware of such a history, and in a considerable number who have already passed a satisfactory test on the vision chart we find the condition of far-sight.

But these headaches, congested eyes, etc., may be due to other causes than eye strain occasioned by hyperopia. We are far more likely to get action from parents if we can report a definite visual defect rather than suggesting to them that they had "better have the child's eyes examined." Therefore the condition should be identified.

Contrary to popular opinion, a "far-sighted eye" does not indicate that such an eye has any greater capacity for observing distant objects than normal, but simply that this eye, owing to its anatomical defect, is obliged to accommodate for distance in order that parallel rays of light may be focused upon the retina. Attempts to focus on near objects cause eye strain. It is the commonest cause of convergent squint.

A simple method of identification is available to us who are not skilled in the science of optics. If the eye under investigation has a clear 20/20 vision or better through a +1 diopter lens, we have conclusive proof that there is present at least one diopter of hyperopia which the child must overcome by the use of accommodation to obtain clear vision, and which naturally causes eye strain, especially at the near point. Vision is reduced in the normal eye by blurring under the same conditions. A +1 diopter lens will identify the majority of hyperopias which are of such degree as to cause trouble or require correction. Lesser degrees than +1 diopter of hyperopia, however, particularly in older children who are doing much studying, will sometimes cause considerable complaint. It is convenient to have a +0.50 diopter lens to investigate these. It is also a comfort to have a +1.50 diopter lens to reassure oneself beyond question in hyperopias of greater degree. These few lenses are obtainable at little cost, their use for our purpose presents no technical difficulty, and they are of great value in investigating such signs and symptoms as mentioned.

The examiner who has not special knowledge should keep in mind that our interest lies not in gauging accurately the extent of refractive error—this, with correction, must be left to those skilled in such matters—but in demonstrating a sufficient degree of defect which, coupled with other signs and symptoms, will allow us to

urge with some accuracy the child's need for skilled attention.

As to the occurrence of this disability, the Eyesight Conservation Council of America reports examination of 3,000 employees of one manufacturing company which showed 28 per cent of all visional defects in this group, and was surpassed in number only by astigmatism. This was, of course, an adult group. In 623 uncorrected defective visions among school children in our health district 133 or 21.3 per cent showed far-sightedness to such a degree as to cause complaint.

PUBLIC HEALTH ENGINEERING

DINING CAR SANITATION*

G. H. FERGUSON, B.A.Sc.

Chief Sanitary Engineer, Department of Pensions and National Health, Ottawa

SUB-SECTION (d) of Section 9, part II, Chap. 39, 18-19, George V, provides that "The supervision, as regards the public health, of railways, boats, ships, and all other methods of transportation, shall be a function of the Health Branch of the Department of Pensions and National Health." This is also in accordance with the definition of the jurisdiction of the Federal Government as laid down in the British North America Act.

With the above authority and two Orders-in-Council dated severally the 19th of June, 1923, and the 25th of February, 1930, much has been accomplished in Canada along the lines of sanitation in connection with common carriers. Generally speaking, the drinking water on passenger trains and passenger vessels can be regarded as safe, as the sources of such water supplies are now subject to frequent examination, in addition to which samples are collected regularly for analysis. Particularly is this the case in regard to common carriers in international traffic, as the result of an agreement between the United States Public Health Service and the Department of National Health of Canada. Also, the report of the Joint Committee on Railway Sanitation has been issued to all of the railways in Canada and the United States that form the American Railway Association.

At the present time common carriers, such as vessels and passenger trains, operate across the international boundary between the United States and Canada freely. The milk, cream, ice cream, oysters and clams on sale in the dining cars and vessel dining rooms of those common carriers that are owned in the United States and which cross the boundary into Canada are subject to the supervision of the United States Public Health Service. From time to time there have been tentative discussions between certain officials of the United States Public Health Service and the Department of National Health regarding matters that would lead up to a proposed system of control to ensure that only milk, cream, ice cream, oysters and clams of safe quality would be available for sale in the dining cars and dining rooms of common carriers engaged in international traffic from points in Canada to points in the United States.

Milk being a food which is suscep-

**Presented before the Public Health Engineering Section at the Twenty-fourth Annual Meeting of the Canadian Public Health Association, Toronto, June, 1935.*

tible to dangerous contamination, the sanitary control of its quality has been recognized on this continent as a public health matter. The administration of legislative details developed for this purpose is usually vested in health authorities. This being the case, it seems appropriate that, in considering the public health matters pertaining to common carriers, the question of the milk supply should be included. The potentialities of the milk supply as a medium for the distribution of dangerous bacterial infections are obvious, not merely because of original contamination at the source of production, but also it is subject to contamination from handling and is an excellent culture medium. This being the case, numerous epidemics have originated from this source. The same is true to a lesser degree of other foods such as cream, ice cream, oysters and clams. In order to avoid the infection of tourists and the travelling public, who may carry and transmit to other localities disease contracted in this manner, the control of the sanitary quality of these particular foods, sold on common carriers, is of importance.

Much emphasis is being laid on the value of the tourist traffic to Canada. The source of by far the largest number of tourists who pass through Canada is the United States and, if Canada is to increase and hold such tourist traffic, the standards of quality for milk and food should be at least equal to those in the country from which these tourists originate.

That there is a very definite desire on the part of the transportation bodies to operate dining cars in line with health standards, was shown during two recent conferences, one at New York in October of last year, and a second at Toronto, in January, 1935. Subsequent to these meetings a preliminary check-up has been inaugurated in Canada in regard to the milk and shellfish served and other matters affecting dining car sanitation.

In co-operation with the United States Public Health Service, data regarding oyster beds and shellfish areas in the United States are exchanged with the Department of National Health of Canada for similar information regarding Canadian oysters and shellfish.

In this connection, it is interesting to note that while passenger trains are operated from many points in Canada to points in the United States by the Canadian National Railway and the Canadian Pacific Railway, dining cars or café cars are operated in regular traffic by nine United States railroads from points in the United States to terminals in Canadian cities.

BOOKS AND REPORTS

A New Angle on Health; Nature's Provision for the Health and Happiness of Mankind. By Surgeon-Captain D. H. C. Given, M.D., D.P.H., D.T.M. & H. (Ret'd), late Medical Officer in charge, H.M. Naval Base, Singapore. Foreword by Surgeon Vice-Admiral Sir Reginald Bond, K.C.B., Medical Director-General of the Navy. Published by John Bale, Sons and Danielsson, Ltd., 83-91 Great Titchfield St., London W.1, 1935. 160 pages. Price 7/6, net.

The author of this striking volume spent 24 years in His Majesty's Navy and for eight years of this period was Health Officer at the Singapore Base. Here he had a unique opportunity of testing his theories and original ideas on medical subjects. He defines the laws to which man is subject in three categories, (1) the moral code upon which social harmony depends, (2) the physical laws which deal with the welfare and nutrition of the body, and (3) sanitation that deals with environment. Upon the proper application of these principles depends the welfare of man.

The author's opinion of civilization is not a very enthusiastic one. Drawing on his experience with the Asiatic labourer, Dr. Given states that his physical standard is A in contrast to the C standard of civilization. He is free from the diseases common

among Western races, his only disadvantage being faulty environment. He has two meals a day of simple food and if the health discipline of the navy could be universally applied, the author feels that the disadvantages of environment would be adequately countered.

The author's recipe for good health is a sound health heritage from family stock, sound body building based upon the use of proper food, exercise in the open air, sunshine and a healthy environment. The ill-effect of certain foods in common use and the inroads of such infections as influenza upon an impoverished stock, are discussed.

Local conditions in Asiatic countries demand practical measures if health is to be maintained. Commercial concerns and the Army and Navy employ regular physical examination of the worker and meticulous inspection of environment. The necessary organization for these purposes is regarded as sound finance. Dr. Given outlines the elaborate measures taken to secure a safe environment at the Singapore Base. The principles involved in the practice of health promotion in Singapore are used in the interpretation of some of the problems of disease attributable to modern civilization. In the discussion of occupation and health, the author states that agriculture is the healthiest type of employment and a return to agriculture is regarded as the salvation of the race.

The volume is worthy of careful study. Its lack of orthodoxy is stimulating and provocative. Its contents express the theories and opinions of a close and trained observer whose life experience in the battle against disease entitles him to speak with authority.

J.W.S.McC.

Elementary Human Anatomy, *Based on Laboratory Studies.* By Katharine Sibley, Professor of Physical Education, School of Education, Syracuse University, Syracuse, N.Y. Published by A. S. Barnes & Co., 67 West 44th Street, New York, 1935. 380 pages, illustrated. Price, $4.50.

Anatomy has now to be taught to many groups of students who are interested only in special branches of medical science. Many of these are unable for a variety of reasons to take the regular course with dissection of the human body, and for them a well-illustrated text book written in clear and simple language, with the minimum of technical terms, is desirable.

Miss Katharine Sibley's book meets these requirements and, furthermore, it is ideally adapted for use by the general public. The volume includes 213 illustrations collected largely from authoritative texts. A difficult subject is presented concisely and attractively. Successive chapters deal with each system in turn—respiratory, muscular, glandular, etc. Of particular practical interest and value are the sections entitled "Laboratory Studies." These are devoted to practical application of points in the text. The student is guided in marking out or identifying landmarks or organs on living subject or museum model, and in demonstrating the action of muscles and joints.

The author has done a real service in writing a text for which there is a very present need. Students of physiotherapy, physical exercise, occupational therapy, nursing or nutrition, and the general public, too, will welcome this volume. The book is well done and deserves to be widely read. Miss Sibley is to be congratulated.

D.L.M.

Ten Years of Rural Health Work, Rutherford County, Tennessee, 1924-1933. By W. Frank Walker, D.P.H., Director of Health Studies, The Commonwealth Fund. Published by The Commonwealth Fund, 41 East 57th Street, New York, 1935. 82 pages. Price, $0.65.

This little book records what was accomplished in Rutherford County, Tennessee, in a ten-year experience of full-time public health services, made possible by the Commonwealth Fund in co-operation with the state department of health. Ten years is not long in the life of a community; one would not expect startling changes in the absence of war or great pestilence. Yet, in the experiment here described, in the prolongation and saving of life, in the habits and customs of the people in relation to community health, great changes occurred. The story is modestly told in a simple and straightforward way. The appended tables afford material evidence of the results achieved.

One objective in public health work today is full-time service. The logical unit in rural areas in the United States and Canada is the county. For these reasons publications such as this fill a very present need, as they serve as guides to those responsible for county units, enabling them to avoid many of the pitfalls that await them and encouraging them with the results that may be obtained.

G.W.

CURRENT HEALTH LITERATURE

These abstracts are intended to direct attention to articles that have appeared in other journals during the past month. Any of the journals referred to may be borrowed for three days or longer if desired. Address requests to the secretary of the Editorial Board.

Influenza: The Preparation of Immune Sera in Horses

Horses were hyperimmunized to influenza virus by subcutaneous injections of human influenza virus, the antigens being saline extracts of the nasal mucosae and lungs of infected ferrets.

The anti-influenzal horse serum obtained was of significant potency in neutralizing influenza virus in mixtures even after considerable dilution. This hyperimmune serum conferred passive immunity in mice and had a very apparent beneficial action on mice already infected. It was found to be possible to fractionate and concentrate the horse hyperimmune serum.

A very conservative estimate is made of the possible utility of this serum as a therapeutic agent. It is emphasized that the influenzal infection in the mouse is essentially a pneumonic process and that the serum may be less effective in other influenzal manifestations in man. Also it is as yet unknown whether different human strains of influenza virus exist, which would demand the use of appropriate type sera as, for example, in pneumococcal pneumonia.

Wilson Smith, C. H. Andrews, and P. P. Laidlaw, Br. J. Exp. Path., *16*: 275-290, 1935.

Group Infection and Immunity during a Scarlet Fever Epidemic in a Boys' School

This study is similar to one made by Glover and Griffith. This epidemic occurred in a reform school of 325 boys from 10 to 17 years of age and lasted 3 months. During this period there were 12 cases of scarlet fever, 32 cases of tonsillitis and 45 cases of sore throat. All of 13 cases of tonsillitis that were cultured showed haemolytic streptococci. There were also 3 cases of rheumatic fever and one of erythema nodosum.

During the 6-months' period from November to May, 1932-33, there were 32 cases of tonsillitis in contrast to 46 cases during the scarlet fever year. Carrier rates were determined in 2 groups of 30 boys. The rates varied from 6 to 20 per cent and there was little difference in the rate during the 2 months after the epidemic. Over a five-week period, 27 were found to be carriers, 11 of whom had some form of upper respiratory infection before or during the epidemic (40 per cent), while 20 of 36 non-carriers had such infection (55 per cent).

The toxigenic capacity of sample strains from scarlet fever cases, sore throat and carriers, showed that at least some cases in this epidemic could be classed as scarlet fever without a rash—7 strains of haemolytic streptococci were isolated from cases of tonsillitis and 3 from healthy carriers. Neutralization tests were done with the toxin produced by one strain of each of these 2 groups. The reactions, in both, were similar to those of streptococcus scarlatinae.

During the 2-months' period of the epidemic, one half of the boys who were Dick positive at the beginning became Dick negative toward the end, without having contracted clinical scarlet fever.

Bernard Zuger, Am. J. Hyg., *21*: 588, 1935.

Observations on Diphtheria Immunization with Single Injection of Alum Toxoid

Diphtheria is a prevalent disease in China. In the first half of 1933, of 208,045 patients in 17 leading hospitals, 277 or 1.3 per mille had this disease. Hence a nation-wide immunization campaign is needed. Stimulated by encouraging reports from other countries, the use of alum toxoid in Shanghai was started early in 1934. The alum toxoid used contained 9Lf units per cc. To 489 Schick-positive persons, mostly children of school age but also some adults, 1 cc. of this alum toxoid was given subcutaneously or intramuscularly. Seventy per cent of these returned for re-test in 5 months.

Of those injected, most showed local reactions—pain 94 per cent, swelling 86 per cent, induration 79 per cent, abscess 0.2 per cent. Six per cent experienced general reactions, i.e., fever, headache, malaise. Within 5 months following the inoculations, re-Schick tests on 359 of the 489 cases demonstrated 62.7 per cent immune. "As based on these observations, the alum toxoid given in one dose as advocated by some authorities does not seem in our hands to give enough protection to all susceptible persons against diphtheria."

D. G. Tai, Chinese Med. J., *49*: 340, 1935.